



THE  
SECOND REPORT  
OF THE  
INDIGENOUS DRUGS COMMITTEE.



SIMLA:  
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1909.

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## THE COMMITTEE :

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*Professor of Materia Medica and Clinical Medicine, Medical College,  
Calcutta. President.*

LIEUTENANT-COLONEL E. F. H. DOBSON, I.M.S., M.B., *Medical  
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Botanic Garden, Calcutta.*

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Products to the Government of India. Secretary.*

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## COADJUTORS IN THIS SECOND REPORT.

1. ALI, HOSPITAL ASSISTANT S. A. (under the direction of Captain J. C. S. Oxley).
2. ANDERSON, CAPTAIN W. M., I. M. S., M.D.
3. CHUKERBUTTY, DR. G. (under the direction of Dr. R. G. Kar).
4. CHURCHILL, LIEUTENANT BROOKE, R. A. M. C.
5. DAS, HOSPITAL ASSISTANT GUNABHIRAM (under the direction of Captain N. S. Wells).
6. DAS, HOSPITAL ASSISTANT RAMANI MOHAN (under the direction of Captain N. S. Wells).
7. DE ATTAIDES, CIVIL SURGEON F. X., L. M. & S. (Bomb.).
8. DYKES, CAPTAIN C., I.M.S., M.B.
9. GREIG, CAPTAIN A. W., I.M.S.
10. HAINES, LIEUTENANT-COLONEL H. A., R.A.M.C., M.D.
11. HILLS, LIEUTENANT W. H., R.A.M.C.
12. HOOPER, MR. D., F.C.S.
13. KAR, DR. R. G., L. R. C. P. (Edin.).
14. OXLEY, CAPTAIN J. C. S., I.M.S.
15. SUTHERLAND, MAJOR D. W., I.M.S., M.D.
16. WELLS, CAPTAIN N. S., I.M.S., M.B.



# SECOND REPORT OF THE INDIGENOUS DRUGS COMMITTEE.

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## SUMMARY.

The following twelve drugs were selected for report:—

- (1) *Podophyllum Emodi* (*continued*).
- (2) *Alstonia scholaris*.
- (3) *Picrorhiza Kurroa*.
- (4) *Adhatoda Vasica*.
- (5) *Calotropis procera* and *C. gigantea*.
- (6) *Acacia Catechu*.
- (7) *Cæsalpinia Bonducella*.
- (8) *Ipomœa hederacea*.
- (9) *Andrographis paniculata*.
- (10) *Embelia Ribes*.
- (11) *Rheum Emodi*.
- (12) *Cassia montana*.

Taking the reports of these in detail and summarizing the information received about them, from the officers to whom specimens were distributed, we find:—

(1) *Podophyllum Emodi* (resin used).—There appears to be a general consensus of opinion among the experimenters that we have in *Podophyllum Emodi* a very useful cholagogue purgative and quite equal in value to the American resin.

Captain W. M. Anderson, I.M.S., Civil Surgeon of Kurram, considers that it is “a useful purgative in doses of  $1\frac{1}{2}$ —2 grains to an adult, liable to cause griping at times and even vomiting and quite as valuable as *P. peltatum*.” This liability to cause vomiting is also frequently seen in the experience of most observers with the resin from the American plant.

Hospital Assistant Gunabhiram Das has furnished some careful note of cases in which he tried it amongst Lushai cultivators, and finds that the *Podophyllum Emodi* “is much better than *podophyllin* of our Pharmacopœia as the drug does not produce griping.”

(i)



(ii)

## SUMMARY.

Lieutenants Hyde Hills and Brooke Churchill, R.A.M.C., experimented on a few European soldiers and came to the conclusion that the effects in the dose used were somewhat "drastic."

Major D. W. Sutherland, I.M.S., M.D., from his experiments at the Medical College, Lahore, came to the conclusion that "*P. Emodi* is a useful cholagogue purgative, and about equal in value to the pharmacopœia resin."

(2) *Alstonia scholaris* (tincture used).—Captain W. M. Anderson, I.M.S., Civil Surgeon, Kurram, administered the drug to sepoys and concluded that it "appears to be of use in mild cases, but not in severe cases." Further that in severe cases, quinine in 10 grain doses brought down the fever within 48 hours, whereas in these same cases dr. i doses of the Tinct. *Alstoniæ* produced no effect. He also tried it in two cases of diarrhœa, but without obtaining any conclusive evidence of real value. Trials at Seoni, Central Provinces, by Hospital Assistant S. A. Ali, were also unfavourable as regards its success as a febrifuge. Dr. F. X. de Attaites, Superintendent of Jail, Katha, reports that the tincture of the drug was successful in three cases of ordinary malarial fever, but the "taste of the drug was objected to" and occasionally it caused nausea and vomiting. It had "no pronounced efficacy." Lieutenant-Colonel H. A. Haines, M.D., R.A.M.C., Ambala, reports briefly that the drug was found "very useful after ague." On the whole, the few reports received about this drug do not appear to be encouraging.

(3) *Picrorhiza Kurroa* (tincture used).—Captain W. M. Anderson, I.M.S., considers that it is of "very little use as an antiperiodic and very inferior to quinine." Dr. F. X. de Attaites, Superintendent of Jail, Katha, states that in two cases of fever the results were "not satisfactory." Lieutenant-Colonel Haines, M.D., R.A.M.C., states that he finds it "a very useful drug," but as he gives no particulars for what conditions or under what circumstances the drug is useful, it is not possible to assess the value of the opinion given. Captain A. W. Greig, I.M.S., Superintendent of Central Jail, Mandalay, reports on this drug (and also several others of the above list) in such terms as the following ". . . tried *Picrorhiza Kurroa* and found (it) to possess the properties ascribed to it." A report and opinion like this, it is perhaps needless to remark, is useless to this Committee or to anybody else. It does not advance our knowledge of the properties of the drug one iota; and advance in knowledge of drugs is what we should aim at.

(4) *Adhatoda Vasica* (tincture used).—Not very much addition, we are afraid, has been made to the knowledge we previously were in possession of about this drug. What there is only goes to confirm the opinion that in suitable cases it proves to be a useful addition to our list of expectorant drugs. Major Sutherland is of opinion that it is "a good expectorant and useful in bronchitis." Captain Anderson found it only "temporary benefit in relieving the dyspnoœal attacks in asthma." Lieutenant-Colonel Haines, R.A.M.C., did not consider that its utility



was "very marked" in bronchitis, but he only used the drug apparently in a few cases. Dr. F. X. de Attaites, Superintendent of Jail, Katha, found it useful in asthma in relieving dyspnœa.

(5) *Calotropis procera* and *Calotropis gigantea* (tincture used).—Conflicting reports of the action of this drug were received from those who experimented with it. Major Sutherland, Principal of the Lahore Medical College, tried it at the Mayo Hospital and reports that it has not proved of much value in dysentery. Captain C. Dykes, M.B., Civil Surgeon of Bareilly, reports that with the tincture of the drug in dysentery, his results were "as good but not I think better than those ordinarily obtained in mild cases by the use of sodium and magnesium sulphate." He states that he had no opportunities of comparative trials in unusually severe cases. He is of opinion that in the absence of special advantages over salines owing to the expense of making "Galenical" preparations of *madar* that the use of this is not indicated. It is not understood what special expense is referred to, as there cannot be much expense in making a tincture of this any more than of any other drug. Captain Dykes promises a further report after renewed experiments with crude preparations of the drug which is readily obtainable at Bareilly. The President of this Committee used this drug extensively at Ali Masjid in 1880 where there were very numerous cases of all degrees of severity of dysentery amongst sepoys of the 16th Lucknow Regiment, with which Regiment he then was and when all the store of ipecacuanha had become exhausted. Many notes were kept of cases so treated, and the conclusion arrived at was that in mild cases of dysentery the crude powder of the dried root of the *madar* (which grew abundantly in the Khyber Pass) certainly appeared to do good, and cases got well on it, but that it was certainly not a specific in all cases and had much the same tendency as ipecacuanha, to produce vomiting and depression. The evacuations became bilious after *madar* much the same as they do after ipecacuanha.

Captain W. M. Anderson in Kurram reports that he found it "useful in mild subacute cases of dysentery, but recovery was slow, and it had little or no effect in severe cases." Dr. F. X. de Attaites, Superintendent of Jail, Katha, was very successful in one case of acute dysentery with *madar* and used 15 m. of the tincture four times daily. He also considered it a "good cholagogue," but it would seem that he is hardly justified in drawing any conclusion either as to its effects in dysentery or as a cholagogue from the results produced in a solitary case.

(6) *Acacia Catechu*.—The Committee decided, regarding this drug, to recommend the adoption of the standard suggested by Mr. Hooper (see page 49 below) and not to experiment with it as its uses are quite evident.

(7) *Casalpinia Bonducella*.—No reports were received about this drug.

(8) *Ipomœa hederacea* (powder used).—The reports appear mainly to confirm what was previously known about this drug, *i.e.*,

that, as Captain W. M. Anderson says, it is a "useful purgative acting as a hydragogue producing watery motions." The dose he suggests is dr. i-ii of the powder. Lieutenant Hyde Hills, R.A.M.C., experimented with the drug in some surgical conditions and found it to be a mild purgative. Dr. F. X. de Attaides, Superintendent of Jail, Katha, regards *Kala dana* as an efficient purgative and "a good substitute for jalap." Similarly Lieutenant-Colonel H. A. Haines, R.A.M.C.

(9) *Andrographis paniculata* (liquid extract used).—Major Sutherland reports that it is of "some value in dysentery." Captain W. M. Anderson finds it of use in mild cases of malarial fever, but useless in severe cases and not to be compared with quinine. Dr. F. X. de Attaides finds it "a good tonic and can be used in place of chiretta."

(10) *Embelia Ribes* (powder used).—Only one report sent. Major Sutherland reports failure as a vermicide, in one case of Erb's juvenile type of muscular dystrophy, complicated with the presence of *Tænia mediocanellata* (*T. serrata*).

(11) *Rheum Emodi* (powder used).—Captain W. M. Anderson reports that he found it "not satisfactory as a purgative." Very liable to gripe and to cause irregularity of the bowels, and the doses had frequently to be repeated before any definite effect was produced.

(12) *Cassia montana* (tincture used).—As the leaves of this Cassia had appeared in the London market as senna, the Committee tried some experiments with it in Calcutta. The Committee have to report that the result of trials by the President and by Dr. R. G. Kar at the Albert Victor Hospital were quite unsatisfactory.

## DETAILED REPORTS.

### 1. REPORT ON *PODOPHYLLUM EMODI*.

Enquiry No. 1 of the Indigenous Drugs Committee is upon the Indian podophyllum. This plant grows in the forests of the Himalaya from Chitral to Sikkim, at 7,000 to 14,000 feet, and is locally abundant. Since 1890 the Forest Department have been experimenting in artificially propagating it, and with fair success at Changlagali. There seems to be no doubt about the abundance of the supply of this plant.

The Committee after its last report distributed the following note to those who had kindly offered assistance. The note reviews the antecedent work of the Committee and explains the position.

*Purpose.*—To show that Indian podophyllum can be used wherever the American root is used : so that India can make free use of its own supply.

*Method.*—For the purpose of demonstration, Podophylli Resina made from Indian podophyllum, is supplied.

*Dose.*—Up to  $1\frac{1}{2}$  grains.

*Remarks.*—Diverse opinions as to the relative values of the American and Indian resins have been held. Umney in 1892 gave analyses showing that Indian resin had only half the strength of American resin. But Dunstan and Henry in 1898, with a better method of analysis, found Indian resin to be quite as powerful as American, and that moreover the root contains more of it. In their own words "Since *P. Emodi* furnishes more podophyllin than *P. peltatum* the Indian plant is of greater value as the source of this resin."

As the Indian drug is more powerful than the American, it would seem that the doses given to a subject of average resistance to drugs should therefore be a little smaller : but the very inadequate reports on the action of the Indian drug which the Committee have received show, it seems, that the average dose is safe.

The following is a resumé of the reports which have been made to the Committee :—

In the experiments so far done (see *Proceedings, Indigenous Drugs Committee*, Vol. I., pages 475 to 481), Lieutenant-Colonel Lee gave less than the minimum doses and reported little or no effect ; he gave also in doses of  $\frac{1}{2}$ — $1\frac{1}{2}$  grains and reported good result ; Dr. Brindaban Chandra Sarkar gave doses of  $\frac{1}{2}$ —1 grain and reported that it acted well. Larger doses seem to have been given by Assistant Surgeon Innes who using 2

grains, reported no griping; by Lieutenant-Colonel Nailer, who also used 2 grains, without observing any griping; but Lieutenant-Colonel Lee found it to cause griping when used in doses in excess of  $1\frac{1}{2}$  grains.

So far the result of trial with doses of  $\frac{1}{2}$ — $1\frac{1}{2}$  grains has been very satisfactory, and it is probable that, after a little more experience, the Indian drug may be established as a reliable medicine.

The statement of Moss (*Yearbook of Pharmacy*, 1892, page 399) that resin from the Indian drug is uncertain in action even "with the same person," is to be disapproved. His experiments are nowhere fully reported.

It has already been suggested in one Journal (E. J. Millard, *Pharmaceutical Journal* [4], 6. 1898, pages 304 to 305), that there is some adulteration of the American resin by Indian, but yet so little Indian stuff has been put on to the market that this appears improbable.

It would be kind of returning officers to make their reports a comparison of Indian and American resin, so as the better to show that India can supply her own need and may export in greater quantities than now.

The chief substances in the podophyllum resin are podophyllotoxin to the extent of (in Professor Dunstan's and Dr. Henry's figures) 2·8 to 5·3 (in the American root it is less than 1 per cent.), podophyllin acid with very slight or no purgative action and podophylloquercetin also with very slight or no purgative action, fats, colouring matter and a resin with a purgative action.

Professor Dunstan asked Drs. H. W. G. Mackenzie and W. Dixon of St. Thomas' Hospital to examine the action of the resin. They report that "Therapeutic trial has proved that the podophyllin prepared from *Podophyllum Emodi* is as valuable a purgative as the podophyllin obtained from *P. pellatum*."

In response to the Committee's requests the following reports were received :—

AIJAL CIVIL DISPENSARY, Aijal, Luslai Hills. Medical Officer, GUNABHIRAM DAS, Hospital Assistant, under the direction of CAPTAIN N. S. WELLS, I.M.S., Civil Surgeon.

#### Case No. 1.

Name of the patient, B.; Address, Aijal; Age, 20 years; Sex, Male; Occupation, Transport-cooly; Married or single, Single; Race and Religion, Santal; Date of admission, 3rd April 1906; Diagnosis, *Simple fever*; Date of discharge, 8th April 1906; Result, Cured.



*Opinion as to the value of the drug.*—Its purgative action is better than Podophylli Resina as there appears no griping.

Date.	Condition of the patient.	Treatment.	Diet.
3rd April 1906..	The patient is admitted to hospital with 100·2° temperature. Patient states that he has been suffering from fever and cold for the last three days: bowels are not regular; tongue coated with thick fur. E. T. 98·4°	Podophyllum Emodi gr. i in a pill form.	Spoon diet.
4th April 1906 ..	M. T. 98·4° No fever; had 4 loose motions; no pain during motion. Tongue fairly clean.	Quinine mixture gr. x Oz. i b. d.	Do.
5th April 1906 ..	No fever, appetite good, bowels not moved this morning.	Repeat mixture ..	Full diet.
6th April 1906 ..	The same	Repeat ..	Do.
7th April 1906 ..	Bowels regular, appetite good.	Iron tonic mixture Oz. i b. d.	Do.
8th April 1906 ..	Health much improving. 4 P.M. discharged—cured.	Repeat mixture ..	Do.

[The stools contained much bile.

N. S. WELLS, *Captain, I.M.S.*]

#### Case No. 2.

Name of the patient, L.; Address, Aijal; Age, 16 years; Sex, Male; Occupation, Student; Married or single, Single; Race and Religion, Lushai; Date and hour of admission, 26th February 1906, 8 A.M.; Diagnosis, <sup>2</sup>*Rheumatism*; Date of discharge, 8th March 1906; Result, Cured.

*Opinion as to the value of the drug.*—It has a good purging action.

Date.	Condition of the patient.	Treatment.	Diet.
26th Feb. 1906 ..	The patient is admitted complaining of pain in both the knee and ankle joint. The left forearm and the right ankle joint are slightly swollen and states that he has been suffering from the pain for the last three months. No history of syphilis.	Alkaline mixt. Oz. i t. d.	Full diet.
27th Feb. 1906.. .	Bowels not moved since yesterday. Urine high-coloured. Tongue coated and moist, appetite fair.	Podophyllum Emodi gr. 1½ with Ext. Gentian.	Spoon diet.
28th Feb. 1906..	No fever, had 6 loose motions, no pain or griping.	Soda Salicylas gr. x t. d.	Half diet.
1st March 1906..	The pain and swelling of the joints as yesterday.	Repeat ..	Full diet.
2nd March 1906..	Same .. ..	Do.	Do.
3rd March 1906..	The swelling gradually subsiding.	Do.	Do.
4th to 6th March	Same .. ..	Do.	Do.
7th March 1906..	The swelling disappeared and no pain.	Do.	Do.
8th March 1903..	No complaint ..	Do.	Do.
	4 P.M. cured, discharged.		

[The stools contained much bile.

N. S. WELLS, *Captain, I. M. S.*]

### Case No. 3.

Name of the patient, B. L. ; Address, Lalthanga village ; Age, 18 years ; Sex, Male ; Occupation, Jhum cultivation ; Married or single, Single ; Race and Religion, Hundi Lushai ; Date of admission, 17th March 1906 ; Diagnosis, *Debility* ; Date of discharge, 8th April 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—The purgative action of this drug is much better than Podophylli Resina of our Pharmacopœia as the drug does not produce griping.

Date.	Condition of the patient.	Treatment.	Diet.
17th March 1906	The patient is admitted to hospital with debility and anæmia. Patient states that he has been suffering from this disease for a year, after having had a fever for about a month last year. Eyelids pale and puffy. Tongue coated with fur. Bowels regular. No enlargement of spleen and liver. Appetite fair.	Podophyllum Emodi, grs. $1\frac{1}{2}$ Ext. Gentian qs. one pill.	Spoon diet.
18th March 1906	Had 6 loose motions yesterday from 10 A.M. to 8 P.M. No pain or griping during defecation.	No medicines ..	Repeat diet.
19th March 1906	Had 2 motions yesterday, the colour of the stool contained bile. Tongue fairly clean. Appetite fair. No fever.	Acid N. M. dil. m. x Tr. Nux Vomica m. x Tr. Gentian Co. m. x Inf. Chiretta add oz. i t. d.	Half diet.
20th March 1906	Bowels regular. Appetite fair.	Repeat mixture ..	Do.
21st March 1906	The same .. ..	Do. ..	Do.
22nd March 1906	The same .. ..	Do. ..	Do.
23rd March 1906	The same .. ..	Do. ..	Do.
24th March 1906	The same .. ..	Do. ..	Do.
25th to 31st March 1906.	Improving .. ..	Iron tonic mixture.	Full diet.
1st April 1906 ..	Do. .. ..	Do. ..	Do.
2nd April 1906..	Do. .. ..	Do. ..	Do.
3rd to 6th April 1906.	Much improving ..	Do. ..	Do.
7th April 1906..	The same .. ..	Do. ..	Do.
8th April 1906 ..	Discharged—cured.		

[There was a large amount of bile in the stools after podophyllin was taken.

N. S. WELLS, *Captain, I.M.S.*]



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MILITARY POLICE HOSPITAL, Aijal, Lushai Hills District. Medical Officer, CAPTAIN N. S. WELLS, I.M.S., Civil Surgeon.

Case No. 4.

Name of the patient, B. T.; Address, Aijal; Age, 24 years; Sex, Male; Occupation, Sepoy; Married or single, Single; Race and Religion, Gurkha, Hindu; Date and hour of admission, 20th February 1906 at 6 P.M.; Diagnosis, *Catarrhal Jaundice*; Date of discharge, 31st March 1906; Result, Cured.

Date.	Condition of the patient.	Treatment.	Diet.
20th Feb. 1906 ..	The subject anæmic has got poor health, conjunctiva pale and highly jaundiced. Bowels habitually constipated. Tongue dirty, coated with fur. Urine high-coloured and yellowish. Stools whitish, complains of an occasional pain in the liver. The left lobe is enlarged and slightly tender. Temperature rose this evening to 99.2° F.	<i>Podophyllum</i> Emodi, grs. 1½ is given at 10 P.M.	Sago, sugar, milk, 4 chitaks.
21st Feb. 1906 ..	Two motions passed after the dose of <i>podophyllum</i> . One a hard stool at 2 A.M. and the other loose in the morning. Complaining of slight griping during defecation. No rise of temperature. The motions are of clay colour.	<i>Podophyllum</i> Emodi gr. i at bed time.	Rice 6 chitaks, vegetable 4 chitaks, dall 1 chitak.
22nd Feb. 1906..	One motion in the morning. Vomited once in the night. The vomited matters were watery and bilious. Slight tympanitis is noticed this morning.	Repeat <i>Podophyllum</i> . Aromatic mixture <i>oz. i</i> , one dose t. d.  <i>Calomel</i> gr. v. <i>Sod. Bicarb.</i> gr. v stat.	Milk, rice 6 chitaks, dall 2 chitaks, vegetable 4 chitaks.

Date.	Condition of the patient.	Treatment.	Diet.
23rd Feb. 1906..	Tympanitis subsided. No vomiting. Bowels moved once. The stool is semiliquid and slimy and of pale drab colour.	Repeat both Calomel gr. v, Sod. Bicarb. gr. v one dose.	Milk, rice 6 chitaks, dall 2 chitaks, vegetable 4 chitaks.
24th Feb. 1906..	Bowels moved once this morning. He says that a burning sensation was felt about an hour after he took his meal last night which continued till morning, but appetite is returned. No rise of temperature. The colour of the stool is the same as yesterday.	Repeat Podophyllum as before, and Aromatic mixture too. Omit Calomel.	Do.
25th Feb. 1906..	The burning sensation in the abdomen has almost disappeared this morning. Bowels moved once. The colour and character of the stool have changed considerably. It contains little of bile.	Repeat Podophyllum $\frac{1}{2}$ gr. doses.	Do.
26th Feb. 1906..	Burning sensation in the abdomen has again appeared, but in a milder form. Bowels moved once. The stool has changed its colour. It is little bile-stained and yellow. Appetite has completely returned. Is very hungry.	Repeat Podophyllum.	Do.

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Date.	Condition of the patient.	Treatment.	Diet.
27th Feb. 1906..	Does not feel better. The stool is very hard and slimy and slight tympanitis from last night has again appeared. Feels a sort of uneasiness in the abdomen. Appetite again bad. Mouth becomes watery in the morning.	Ammon. Chlor. gr. x Acid N. M. dil. m. x. Tinet. Cinchona Comp. m. xv Aqua—ad oz. i. t. d. and Podophyllum at bed time.	Milk, rice 6 chitaks, dall 2 chitaks, vegetable 4 chitaks, chicken one.
28th Feb. 1906..	No improvement is noticed. Tympanitis and appetite are the same as yesterday. Bowels moved once.	Repeat both ..	Do.
1st March 1906..	Tympanitis has subsided to a great extent. Feels much better this morning.	Repeat ..	Do.
2nd March 1906..	Same as yesterday. No improvement in reducing the main complaint of jaundice though his habitual constipation has been much remedied by the use of <i>Podophyllum Emodi</i> . The trial of <i>Podophylli Resina</i> proved successful in restoring the regularity of bowels, though it gave rise to griping for the first few days. Hence further use of the drug in this case has been abandoned. The case recovered afterwards by the administration of cholagogue medicines as Ammon. Chlor., Ext. Taraxaci Liq., etc., and discharged to duty on 31st March 1906.		

[ This was a case of severe catarrhal jaundice. No conclusions can be drawn as podophyllin was tried some time after the patient was in hospital under other treatment and was on the mend. In addition to the hospital cases, I made several observations on myself in pill form. ]

Results.

Podophyllum Emodi, gr.  $\frac{1}{2}$

Ext. Hyoscyami, gr. iii.

In this form the drug was very active giving rise to two to six watery stools containing much bile. As a rule there was severe griping,

being intense at times. On one occasion only was the griping very trivial. The variation in action seemed to be due to an unequal division of the podophyllin in spite of the quantity in each pill having been ordered to be separately weighed. The podophyllin reduced to grain one-fourth—the action was gentle and caused no discomfort.

*Conclusion.*

In  $\frac{1}{2}$  grain doses the drug is active and certain in its action giving rise to several watery stools up to 6, containing plenty of bile. For general therapeutic use I think this a good average dose and should rarely be exceeded.

*Griping.*

My personal experience on this point is very different to that of hospital patients, only one of whom complained of pain and griping. More observations on this point will be carried on.

N. S. WELLS, *Captain I.M.S.*]

CIVIL HOSPITAL, Parachinar, Kurram District. Medical Officer,  
CAPTAIN W. M. ANDERSON, I.M.S., Civil Surgeon.

*Case No. 5.*

Name of the patient, J.; Address, Kurram; Age, 23 years; Sex, Male; Occupation, Servant; Married or single, Single; Race and Religion, Afghan, Mohamedan; Date and hour of admission, 4 P.M., 27th June 1906; Diagnosis, *Chronic Tubercular Lymphadenitis*; Date of discharge, 23rd July 1906; Result, Cured.

*Opinion as to the value of the drug.*—A useful purgative requires to be given in doses of  $1\frac{1}{2}$ —2 grs. to an adult male. Liable at times to gripe and even to cause vomiting. Quite as valuable as the podophyllin obtained from *Podophyllum peltatum*.

Date.	Condition of the patient.	Treatment.	Diet.
27th June 1906	Admitted with enlarged suppurating glands of neck.	Exuded and scraped.	..
7th July 1906	Constipation No result .. ..	Podophyllum Emodi in morning gr. i. In evening gr. $1\frac{1}{2}$ .	..
8th July 1906	After medicine vomited twice, complained of griping pain and bowels were opened four times.	Podophyllum Emodi gr. ii.	..
23rd July 1906	Discharged.		

## Case No. 6.

Name of the patient, G.; Address, Kabul territory; Age, 11 years; Sex, Female; Occupation, Zamindar; Married or single, Single; Race and Religion, Afghan, Mohamiedan; Date and hour of admission, 7th July 1906, 4 p.m.; Diagnosis, *Ague and Constipation*; Date of discharge, 14th July 1906; Result, Cured.

*Opinion as to the value of the drug.*—A useful purgative, requires to be given in doses of  $1\frac{1}{2}$ —2 grs. to an adult male. Liable at times to gripe and even to cause vomiting. Quite as valuable as the podophyllin obtained from *Podophyllum peltatum*.

Date.	Condition of the patient.	Treatment.	Diet.
7th July 1906	Admitted complaining of fever. Temp. 101 4°.	Diaphoretic mixture.	Milk and rice.
8th July 1906	Temp. morn. 98 6° even. 101-6°.	Quinine gr. v b. d.	
9th July 1906	Temp. morn. 98 4° Bowels moved twice	Podo. Emodi gr. $\frac{1}{2}$	
10th July 1906 ..	Temp. normal ..	Quinine continued.	
14th July 1906 ..	Discharged.		

## Case No. 7.

Name of the patient, G.D.; Address, Kabul territory; Age, 30 years; Sex, Male; Occupation, Zamindar; Married or single, Married; Race and Religion, Afghan, Mohamedan; Date and hour of admission, 4 p.m., 5th July 1906; Diagnosis, *Bronchitis and Constipation*; Date of discharge, 5th July 1906; Result, Cured.

*Opinion as to the value of the drug.*—A useful purgative, requires to be given in doses of  $1\frac{1}{2}$ —2 grs. to an adult male. Liable at times to gripe and even to cause vomiting. Quite as valuable as the podophyllin obtained from *Podophyllum peltatum*.

Date.	Condition of the patient.	Treatment.	Diet.
5th July 1906 ..	Admitted complaining of cough. He was constipated and had a furred tongue. No result.	Podo. Emodi gr. i.	Own diet.



Date.	Condition of the patient.	Treatment.	Diet.
6th July 1906 ..	Bowels opened twice, no griping.	Podo. Emodi gr. 1½.	..
8th July 1906 ..	....	Stomachic mixture.	..
12th July 1906..	....	Expectorant mixture.	..
14th July 1906..	Discharged.	..	..

Case No. 8.

Name of the patient, A. M.; Address, Kabul; Age, 40 years; Sex, Male; Occupation, Zamindar; Married or single, Married; Race and Religion, Afghan, Gilzai Mohamedan; Date and hour of admission, 4 P.M., 5th July 1906; Diagnosis, *Dyspepsia*; Date of discharge, 14th July 1906; Result, Cured.

*Opinion as to the value of the drug.*—A useful purgative requires to be given in doses of 1½—2 grs. to an adult male. Liable at times to gripe and even to cause vomiting. Quite as valuable as the podophyllin obtained from *Podophyllum peltatum*.

Date.	Condition of the patient.	Treatment.	Diet.
5th July 1906 ..	Admitted with dyspeptic symptoms and irregular action of bowels.	....	Own diet.
6th July 1906 ..	No result ..	Podophyllum Emodi gr. i. morning; gr. 1½ evening.	..
7th July 1906 ..	Three liquid motions. Complained of griping and "heat in stomach," vomited twice.	....	..
8th to 14th July 1906.	Improved rapidly. Discharged.	Put on Sod. Bic., Nux Vom., Sp. Chlorof.	

## Case No. 9.

Name of the patient, H. ; Address, Kabul ; Age, 28 years ; Sex, Male ; Occupation, Zamindar ; Married or single, Married ; Race and Religion, Afghan, Mohamedan ; Date and hour of admission, 10 A.M., 1st July 1906 ; Diagnosis, *Ague and Constipation* ; Date of discharge, 15th July 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—A useful purgative, requires to be given in doses of  $1\frac{1}{2}$ —2 grs. to an adult male. Liable at times to gripe and even to cause vomiting. Quite as valuable as the podophyllin obtained from *Podophyllum peltatum*.

Date.	Condition of the patient.	Treatment.	Diet.
1st July 1906 ..	Admitted with constipation and a temperature of $102.2^{\circ}$ . No result.	Podophyllum Emodi gr. i.	Own diet.
2nd July 1906 ..	No griping complained of. Two motions. After this his bowels remained regular.	Podophyllum Emodi grs. $1\frac{1}{2}$ . Pierorhiza Kurroa $\frac{1}{2}$ dr. t. d. s.	..
15th July 1906 ..	Temperature continued irregular till 8th and was normal after that date. Discharged on 15th.	....	..

CAWNPORE STATION HOSPITAL, Cawnpore District. Medical Officer,  
LIEUTENANT W. HYDE HILLS, R.A.M.C.

## Case No. 10.

Name of the patient, C. ; Address, Cawnpore ; Age, 23 years ; Sex, Male ; Occupation, Private, Somersetshire Light Infantry ; Married or single, Single ; Date of admission, 20th March 1906 ; Diagnosis, *Stricture of Urethra* ; Date of discharge, 8th May 1906.

Date.	Condition of the patient.	Treatment.	Diet.
23rd April 1906	Patient states that when on duty his bowels are opened regularly daily. Motions usually hard.	....	Convalescent meat.



Date.	Condition of the patient.	Treatment.	Diet.
	While in hospital (4 weeks) he has suffered from constipation, bowels being opened about every other day by means of white mixture.		
	Bowels opened last 23rd April 1906. Bowels acted 9 P.M., 23rd April 1906; small result. One loose motion at 7 A.M., 24th April 1906. No griping.	Gave gr. i. Podophyllum Emodi at 10-30 A.M.	..
24th April 1906	At 2 P.M. started a series of watery stools, 6 in number. Griping before. Vomiting at 1 P.M.	Gr. 1½ Podophyllum Emodi at 8-30 A.M.	

CAWNPORE STATION HOSPITAL, Cawnpore District. Medical Officer, LIEUTENANT BROOKE CHURCHILL, R.A.M.C.

Case No. 11.

Name of the patient, H. ; Address, Cawnpore ; Age, 25 years ; Sex, Male ; Occupation, Private, Somersetshire Light Infantry ; Married or single, Single ; Date and hour of admission, 23rd July 1906, 7 A.M. ; Diagnosis, *Impetigo* ; Result, Recovered.

*Opinion as to the value of the drug.*—Rather a drastic purge.

Date.	Condition of the patient.	Treatment.	Diet.
23rd August 1906	Constipated. 10 P.M. patient vomited, 5-30 A.M. liquid motion, dark. No griping.	Gr. i of powder given at 5 P.M. in warm water.	Full.

*Case No. 12.*

Name of the patient, W. ; Address, Cawnpore ; Age, 23 years ; Sex, Male ; Occupation, Private, 1st Bn., Somersetshire Light Infantry ; Married or single, Single ; Date and hour of admission, 16th August 1906, 8 A.M. ; Diagnosis, *Catarrhal Jaundice* ; Result, Improved.

*Opinion as to the value of the drug.*—Purge and cholagogue.

Date.	Condition of the patient.	Treatment.	Diet.
22nd August 1906	Patient is deeply jaundiced and passing clay-calomel motions.	Inf. Chiretta. Podophyllum Emodi gr. $\frac{3}{4}$ . Pil. Aloes Co. ad gr. iii o. n.	..
24th August 1906	Patient's motions are almost normally dark. Jaundice continues.	Chiretta continued. Pulv. Podophyllum Emodi gr. i o. n. instead of pill.	..
30th August 1906	Jaundice very much less. Motions dark. Acts in about 4 hours, without griping. Generally gives two motions.	....	..

*Case No. 13.*

Name of the patient, E. C. B. ; Address, Cawnpore ; Sex, Male ; Occupation, Somersetshire Light Infantry ; Married or single, Single ; Date and hour of admission, 30th August 1906, 7-30 A.M. ; Diagnosis, *Tonsillitis* ; Result, Improved.

*Opinion as to the value of the drug.*—Cholagogue and purge.

Date.	Condition of the patient.	Treatment.	Diet.
2nd Sept. 1906 ..	Constipated ..	Gr. i Podophyllum Emodi at 10 P.M.	..
3rd Sept. 1906 ..	9 A.M. one dark liquid motion. No griping.	....	..

MAYO HOSPITAL, Lahore. Medical Officer, CAPTAIN D. W. SUTHERLAND, I.M.S., M.D.

Case No. 14.

Name of the patient, L. S. ; Address, Gujranwala ; Age, 45 years ; Sex, Male ; Occupation, Shopkeeper ; Married or single, Married ; Race and Religion, Sikh ; Date of admission, 17th October 1905 ; Diagnosis, *Chronic Myelitis*.

*Opinion as to the value of the drug.*—Quite satisfactory.

Date.	Condition of the patient.	Treatment.	Diet.
18th Oct. 1905 ..	Bowels constipated for two days.	Podo. Emodi, gr. $\frac{1}{2}$ Ext. Hyoscy. gr. ii.	Dall and bread.
19th Oct. 1905 ..	Bowels moved, but not satisfactorily.	M. ft. Pil. at night.	..
20th Oct. 1905 ..	Good semi-solid motion without griping.	Dose repeated.	..
21st Oct. 1905 ..	Natural motion with a little flatus.	Dose again repeated.	..
24th Oct. 1905 ..	Bowels again constipated.	Pill given. Podo Emodi gr. i, Ext. Belladonna, gr. $\frac{1}{4}$ .	..
	Bowels moved twice, without griping ; mentions semi-solid.	Ft. pil. at once. ..	..

Case No. 15.

Name of the patient, N. B. ; Address, Lahore ; Age, 40 years ; Sex, female ; Occupation, Beggar ; Married or single, Married ; Race and Religion, Mohamedan ; Date of admission, 7th October 1905 ; Diagnosis, *Disseminated Sclerosis*.

*Opinion as to the value of the drug.*—Quite satisfactory.

Date.	Condition of the patient.	Treatment.	Diet.
21st Oct. 1905 ..	Bowels constipated.	Podo. Emodi gr. i Ext. Belladonna gr. $\frac{1}{4}$ .	Milk and rice.

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Date.	Condition of the patient.	Treatment.	Diet.
22nd Oct. 1905..	Bowels moved once, motions being semi-solid and without griping.	....	..
23rd Oct. 1905..	Two motions without griping resulted.	Podophyllum gr. i again repeated.	..

Case No. 16.

Name of the patient, D.; Address, Jullandhar; Age, 22 years; Sex, Male; Occupation, Labourer; Married or single, Single; Race and Religion, Mohamedan; Date of admission, 22nd September 1905; Diagnosis, *Lobar Pneumonia*; Date of discharge, 26th October 1905; Result, Cured.

*Opinion as to the value of the drug.*—Unsatisfactory.

Date.	Condition of the patient.	Treatment.	Diet.
18th Oct. 1905 ..	Bowels constipated 2 days.	Pod. Emodi, gr. $\frac{1}{2}$ Ext. Hyosey. gr. ii M. ft. pil. at night.	Milk and rice.
19th Oct. 1905 ..	Bowels still constipated.	....	..

Case No. 17.

Name of the patient, H.; Address, Ferozpur; Age, 35 years; Sex, Male; Occupation, Labourer; Married or single, Married; Race and Religion, Mohamedan; Date of admission, 2nd October 1905; Diagnosis, *Chronic Rheumatic Arthritis*; Date of discharge, 22nd October 1905; Result, Relieved.

*Opinion as to the value of the drug.*—Unsatisfactory.

Date.	Condition of the patient.	Treatment.	Diet.
19th Oct. 1905 ..	Bowels constipated 1 day.	Pod. Emodi, gr. i	Milk and bread.
20th Oct. 1905 ..	No effect after pill..	Ext. Hyosey. gr. ii in pill.	..

Case No. 18.

Name of the patient, J. G. ; Address, Bahadurpur, Patiala State ; Age, 43 years ; Sex, Male ; Occupation, Shopkeeper ; Married or single, Married ; Race and Religion, Hindu ; Date of admission, 17th November 1905 ; Diagnosis, *Paralysis* ; Date of discharge, 29th November 1905 ; Result, Otherwise.

Opinion as to the value of the drug.—Satisfactory.

Date.	Condition of the patient.	Treatment.	Diet.
25th Nov. 1905..	Constipated for 2 days. No motion.	Podo. Emodi gr. i. Ext. Hyosey. gr. ii. Ft. pil. given at 8 A.M.	Bread and dall.
26th Nov. 1905..	As result two hardest motions passed without griping.	Dose repeated ..	..
27th Nov. 1905..	Got.	....	..

Three students under Captain Sutherland tried *Podophyllum Emodi* with the following results :—

No.	Name.	Drug used.	Result.
1	B. H. S. ..	Podo. Emodi gr. $\frac{1}{2}$ Ext. Bellad. gr. $\frac{1}{4}$ .	Four semi-solid motions with slight griping pain.
2	R. D. ..	Podo. Emodi gr. $\frac{1}{2}$ Ext. Bellad. gr. $\frac{1}{4}$ .	No motions.
3	S. V. H. ..	Podo. Emodi gr. i Ext. Bellad. gr. $\frac{1}{4}$ .	Two ordinary motions without griping.

Major D. W. Sutherland, I.M.S., M.D., Professor of Medicine, Medical College, Lahore, remarks:—" *Podophyllum Emodi*—a useful cholagogue purgative, and about equal in value to the pharmacopœial resin."

Captain J. C. S. Oxley, I.M.S., Civil Surgeon, Seoni, Central Provinces, remarks:—"I consider that it is an effective purgative and is probably as active as the American drug. It has been noticed that a dose of  $1\frac{1}{2}$  grains has in one case produced only one loose bile-stained motion and in another case 2 grains produced six motions. There was no griping observed, but in one case a feeling of nausea. It appears to act within 3 to 4 hours."





## 2. REPORT ON ALSTONIA SCHOLARIS.

Enquiry No. 2 is upon bark of *Alstonia scholaris*. Vern. :—*Chhatian, datyuni*, HIND. ; *Chhatin*, BENG.

The following note was circulated to co-adjutors :—

*Purpose.*—To ascertain how far preparations of *Alstonia scholaris* are a reliable makeshift for quinine. For the purpose a tincture *British Pharmacopœia* formula (see *Indian and Colonial Addendum*, Government of India Edition 1901, p. 28) is distributed. It contains the alkaloid, ditain.

*Way to use it.*—Administer in doses of 10—60 minims.

(i) in cases of fever as an antiperiodic.

(ii) in convalescence after fever as a tonic.

(iii) in cases of diarrhœa and dysentery.

*Remarks.*—The natives of India have considerable faith in *Alstonia* bark. They use it in fevers and in dysentery: they also use it in skin diseases, ulcers, etc., and for a number of other complaints. Possibly it may be found better as a tonic after quinine than in the place of quinine.

Dr. Dymock has found the tincture of the bark to act in certain cases as a very powerful galactagogue; in one case, the use of the drug was purposely discontinued at intervals and on each occasion the flow of milk was found to fail (*Pharmacographia Indica*, Volume II, page 387).

The following statements are made in the report on the Continental Exhibition presented to the American Pharmaceutical Association (*Transactions*, 1877) about the use of this drug and its alkaloid, ditain, in Manilla:—"Equal doses of ditain and of standard quinine sulphate have had the same medicinal effects; besides having none of the disagreeable secondary symptoms such as deafness, sleeplessness and feverish excitement, which are the usual concomitants of large quinine doses, ditain attains its effects swiftly, surely and infallibly. \* \* \* \* The results arrived at by ditain in our Manilla Hospitals and private practice are simply marvellous. In our Military Hospital and penitentiary practice, ditain has perfectly superseded quinine." (*Pharmacographia Indica*, Volume II, page 388.)

Experiments have already been made for the Indigenous Drugs Committee, but are not conclusive; and more evidence must be collected. Captain Stewart, I.M.S., who used one drachm doses, reported that in mild cases of fever it was as effective as quinine. Drs. W. D. Innes and Ditta Mall Dhiagra did not find it as good as quinine in fever cases. Major Hare and Dr. C. Bancroft found it serviceable in dysentery.



## 20 SECOND REPORT OF THE INDIGENOUS DRUGS COMMITTEE.

Reports were received as follows:—

KURRAM MILITIA HOSPITAL, Parachinar, Kurram District.  
Medical Officer, CAPTAIN W. M. ANDERSON, I.M.S., M.D., Civil Surgeon.

### Case No. 1.

Name of the patient, M.; Address, Parachinar; Age, 22 years; Sex, Male; Occupation, Sepoy; Married or single, Married; Race and Religion, Mohamedan; Date and hour of admission, 10 A.M., 1st February 1906; Diagnosis, *Ague*; Date of discharge, 6th February 1906; Result, Cured.

*Opinion as to the value of the drug.*—That in mild cases of fever it appears to be of use, but not in severe cases. In certain cases where *Alstonia* in drachm doses t. d. s. has had no effect after 4 or 5 days, quinine has brought down the fever within 48 hours in 10 gr. doses t. d. s.

Date.	Condition of the patient.	Treatment.	Diet.
1st Feb. 1906 ..	Admitted for ague and constipation. Result 2 motions on 2nd.  Temp. morn. 99·4°, even. 103°.	<i>Ipomoea</i> — 1½ dr. 10 A.M. i dr. 6 P.M.	Milk and rice.
2nd Feb. 1906 ..	„ morn. 100°, even. 102°.	Tinct. <i>Alstonia scholaris</i> dr. ½ t. d. s.	....
3rd Feb. 1906 ..	„ morn. 99·4°, even. 100·4°.	Do. m.xl t.d.s.	....
4th Feb. 1906 ..	„ morn. 97·2°, even. 98°.	Do.	....
5th Feb. 1906 ..	„ morn. 97·2°, even. 98°.	Do.	....
6th Feb. 1906 ..	„ morn. 97·4°  Discharged.	....	....

## Case No. 2.

Name of the patient, M. ; Address, Parachinar ; Age, 17 years ; Sex, Male ; Occupation, Sepoy ; Married or single, Single ; Race and Religion, Mohamedan ; Date and hour of admission, 9 A.M., 5th April 1906 ; Diagnosis, *Ague* ; Date of discharge, 8th April 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—That in mild cases of fever it appears to be of use, but not in severe cases. In certain cases where *Alstonia* in drachm doses t. d. s. has had no effect after 4 or 5 days, quinine has brought down the fever within 48 hours in 10 gr. doses t. d. s.

Date.	Condition of the patient.	Treatment.	Diet.
5th April 1906 ..	Admitted with temp. 102° and constipation.	P. Jalap Co. dr. i Calomel grs. 4 and Tinct. Alstonia dr. i t.d.s.	Milk and rice.
6th April 1906 ..	Temp. 100.6° ..	Tincture Alstonia dr. i t.d.s.	....
7th April 1906 ..	Temp. 98.2° ..	Continued.	....
8th April 1906 ..	Discharged.		....

## Case No. 3.

Name of the patient, H. M. ; Address, Parachinar ; Age, 45 years ; Sex, Male ; Occupation, Armourer ; Married or single, Married ; Race and Religion, Mohamedan, Sunni ; Date and hour of admission, 10 A.M., 30th January 1906 ; Diagnosis, *Ague* ; Date of discharge, 5th March 1906 ; Result, No benefit.

*Opinion as to the value of the drug.*—That in mild cases of fever it appears to be of use, but not in severe cases. In certain cases where *Alstonia* in drachm doses t.d.s. has had no effect after 4 or 5 days, quinine has brought down the fever within 48 hours in 10 gr. doses t. d. s.

Date.	Condition of the patient.	Treatment.	Diet.
30th Jan. 1906	Admitted with marked debility. Temp. 99°. Heart and lungs and abd. organs healthy.	Quin. Sulph. 20 grs. daily.	Milk and rice.
6th Feb. 1906..	Temp. morning 97°, evening 101°.	Tinct. Alstonia scholaris dr i t.d.s.	..

Date.	Condition of the patient.	Trea'ment.	Diet.
7th Feb. 1906 ..	Temp. morning 97·6°, evening 101°	Continued ..	..
8th Feb. 1906 ..	„ morning 98°, evening 102°.	Do. ..	..
9th Feb. 1906 ..	„ morning 97·6°, evening 99°.	Do. ..	..
10th Feb. 1906..	„ morning 98·4°, evening 101°.	Do. ..	..
11th to 15th February 1906.	Temperature remained high, varying from 98·8° to 101·2°.	Discontinued. Arsenic and Quinine given.	..
16th to 18th February 1906.	Temperature normal.	....	..
19th to 28th February 1906.	Temperature 99°—103°.	....	..
1st March 1906	Temperature 99° and continued so.	....	..
5th March 1906	Discharged and sent on sick leave.	....	..

*Case No. 4.*

Name of the patient, S. B. ; Address, Parachinar ; Age, 32 years ; Sex, Male ; Occupation, Subadar ; Married or single, Married ; Race and Religion, Mohamedan, Shia ; Date and hour of admission, 8 A.M., 16th May 1906 ; Diagnosis, *Diarrhœa* ; Date of discharge, 20th May 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—It appears to have been of service in this and the next case recorded here, but these have not been sufficient cases to form a definite opinion as to its value in diarrhœa.

Date.	Condition of the patient.	Treatment.	Diet.
16th May 1906 ..	Admitted for diarrhœa ; had four motions ; liquid yellow ; no blood or mucus. Temp. normal. Five motions after taking the castor oil.	Castor oil oz. $\frac{1}{2}$ .. Tinct. Alstonia dr. i t.d.s.	Milk. ..
17th May 1906 ..	Two motions ..	Continued ..	..
18th May 1906 ..	One motion ..	Do. ..	..
19th May 1906 ..	One motion ..	Do. ..	..
20th May 1906 ..	Discharged.	....	..

## Case No. 5.

Name of the patient, S. A.; Address, Parachinar; Age, 35 years; Sex, Male; Occupation, Havildar; Married or single, Married; Race and Religion, Mohamedan, Shia; Date and hour of admission, 8 A.M., 10th May 1906; Diagnosis, *Diarrhœa*; Date of discharge, 24th May 1906; Result, Cured.

*Opinion as to the value of the drug.*—It appears to have been of service in this and the preceding case recorded here, but these have not been sufficient cases to form a definite opinion as to its value in diarrhœa.

Date.	Condition of the patient.	Treatment.	Diet.
10th May 1906 ..	Admitted complaining of diarrhœa. Motions yellow, liquid, offensive. No blood or mucus. Temperature normal.	Castor oil oz. $\frac{1}{2}$ .. Tinct. Alstonia dr. i t.d.s.	Milk.
11th May 1906 ..	Two motions. Two motions ..	Continued ..	..
12th May 1906 ..	One motion .. ..	Do. ..	..
13th to 14th May 1906.	Daily motion ..	Do. ..	..
15th May 1906 ..	....	Discontinued. Iron and Strychnine given.	Ordinary diet.

POLICE HOSPITAL, Seoni, Central Provinces. Medical Officer, S. A. ALI, Hospital Assistant, under the direction of CAPTAIN J. C. S. OXLEY, I.M.S., Civil Surgeon.

## Case No. 6.

Name of the patient, B.; Address, Seoni; Age, 28 years; Sex, Male; Occupation, Police constable; Married or single, Married; Race and Religion, Brahman; Date and hour of admission, 3rd March 1906, forenoon; Diagnosis, *Ague*; Date of discharge, 19th March 1906; Result, Cured.

*Opinion of Captain J. C. S. Oxley, I.M.S. as to the value of the drug.*—*Alstonia scholaris* appears to me to be an effective febrifuge;

and while perhaps acting less actively than quinine, it appears, when given in the doses mentioned, not to excite any unpleasant symptoms. It might be valuable in cases of fever in pregnant women and in persons "who cannot take quinine."

Date.	Condition of the patient.	Treatment.	Diet.
3rd March 1906..	The patient states that for the last 4 days he is getting fever every evening with chill and rigor. Firstly he was treated as an out-patient, but to no effect. At the time of admission when he came for medicine the temperature was 103°; body hot and burning; feeling thirsty; bowels acted once, but not satisfactorily. Tongue coated, having dull pain in the belly; appetite also dull. He got fever last night with chill and rigor; no enlargement of liver or spleen is noticed. Vesper—Bowels acted once: it was not loose but ordinary one; colour healthy. The fever came again with chill and rigor. Temperature 100°.	....  Podophyllum Emodi grs. 1½ st.  Tinet Alstonia m. 40 Aqua m. pip. ad oz. i t. d.  ....	Full diet.  ..  ..
4th March 1906..	Temperature normal; bowels acted as usual: appetite increasing. Vesper—Temperature 100.4°.	Continued	..
5th March 1906..	Bowels acted twice: appetite good: temperature normal. Vesper—Temperature 99°.		



Date.	Condition of the patient.	Treatment.	Diet.
6th March 1906..	Bowels acted, appetite normal, complains of pain in the head. Vesper--Temperature normal.	....	..
7th March 1906..	Doing better ..	....	..
8th March 1906..	Had fever with chill and rigor at 7 P. M. Temp. 100.4°; bowels not acted properly this morning; temperature 99°. Vesper--Temperature 102°, bowels acted twice: complains that he gets much giddiness and pain in all limbs.	Mag. Sulph. dr. i ; Tinct. Alstonia dr. i ; Aqua, ad oz. i t. d.	
9th March 1906..	Doing the same ..	....	..
10th March 1906	Last evening the temperature normal: appetite fair: bowels acted.	Continued the mixture.	
11th March 1906	Doing better ..	....	
12th March 1906	Spleen and liver can be felt below the costal arch, complains of much weakness.	Tinct. Iodi paint over the spleen.	
13th March 1906	Doing the same ..	Continued ..	..
14th March 1906	Do. ..	Do. ..	..
15th March 1906	Doing much better than before.	Do. ..	..
16th March 1906	Doing the same ..	Continued the mixture.	
17th March 1906	Bowels acted, appetite fair, spleen is reducing.	....	..
18th March 1906	Doing better ..	....	..
19th March 1906	Doing better. Discharged cured in the forenoon.	....	..

## Case No. 7.

Name of the patient, I; Address, Seoni; Age, 33 years; Sex, Male; Occupation, Police constable; Married or Single, Single; Race and Religion, Mohamedan; Date of admission, 15th January 1906; Diagnosis, *Ague*; Date of discharge, 27th January 1906; Result, Cured.

Date.	Condition of the patient.	Treatment.	Diet.
15th Jan. 1906 (afternoon).	The patient states that about 12 days ago he got fever with chill and rigor while he was on tour with the cavalry passing. Present condition:—The patient is a strong, stout man of about 33. There is slight enlargement of the spleen which is felt below the costal arch on deep inspiration. Eyes little anæmic. At the time of admission the temperature was 103·4°. Bowels not acted, tongue slightly coated, skin hot and perspiring: pulse quick and soft.	....	Full diet.
16th Jan. 1906 ..	Temperature 99·4°; bowels not properly acted. Vesper—Temperature 102·4°, skin hot and burning, appetite dull, bowels moved 6 times loosely; of greenish colour.	Podophyllum Emodigr. ii st.  Tinet. Alstonia scholaris, m. 40 Aqua m. pip. ad oz. i t. d.	..
17th Jan. 1906 ..	Only one dose was administered last evening and the fever came down with perspiration at about 2 A.M. Morning temperature 98°.	Continued.	..



Date.	Condition of the patient.	Treatment.	Diet.
	Vesper—Temperature 102.4°.		
18th Jan. 1906 ..	Bowels moved, appetite fair. Temperature 99°, complains of cough at night.	....	..
19th Jan. 1906 ..	Last night he states that about one o'clock he felt cold and got fever which came down after perspiration. Tongue slightly coated, pulse soft and quick, appetite dull.	Continued ..	..
	Vesper—Body hot and parched, but about to perspire.		
20th Jan. 1906 ..	Temperature normal: appetite dull: tongue coated: bowels moved.	Continued ..	..
21st Jan. 1906 ..	Doing the same ..	Ditto ..	..
22nd Jan. 1906 ..	Do. ..	Ditto ..	..
23rd Jan. 1906 ..	Spleen is also not felt below the costal arch, no more cough at night, bowels acted, conjunctiva still anæmic, tongue coated slightly.	Continued the mixture.	..
24th Jan. 1906 ..	Bowels moved: appetite good. Tongue slightly coated.	....	..
25th Jan. 1906 ..	Bowels moved: appetite good: no cough.	....	..
26th Jan. 1906 ..	Doing better ..	....	..
27th Jan. 1906 ..	Doing well, cured and discharged.	....	..

Dr. F. X. de Attaites, L.M. & S., Superintendent of Jail, Katha, reports :—“ There are notes of five cases in which tincture of *Alstonia scholaris* was used as a febrifuge and tonic. It was successful in three cases of ordinary malarial fever; but the taste of the drug was objected to and in  $\frac{1}{2}$  dr. doses it sometimes caused nausea and vomiting. On the whole its efficacy was not pronounced.”

Lieutenant-Colonel H. A. Haines, M.D., R.A.M.C., Senior Medical Officer, Station Staff, Ambala, Punjab, reports :—“ Tincture of *Alstonia* was found very useful after ague.”

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### 3. REPORT ON PICRORHIZA KURROA.

Enquiry No. 3 of the Indigenous Drugs Committee is on the root of *Picrorhiza Kurroa*. Vern. :—*Kutki, katki*, HIND. ; BENG.

The drug has already been admitted into the *Indian and Colonial Addendum of the British Pharmacopœia*. It is produced in the Himalaya, carried far in native trade, and used widely in native medicine.

The following note on it was distributed :—

*Purpose*.—To test the efficiency of the root of *Picrorhiza Kurroa* as a tonic and febrifuge. For the purpose a tincture is provided, made according to the recipe of the *British Pharmacopœia, Indian and Colonial Addendum*, Government of India Edition, 1901, page 50.

*Dose*.— $\frac{1}{2}$  to 1 fluid drachm.

*Note*.—The drug as an antiperiodic seems to be very inferior to quinine, but as a bitter tonic, is, we believe, distinctly serviceable. It is extensively used in India under the name of *kutki*, but it is far from being the only *kutki* in the bazars, where several drugs bear this name, e.g., Black Hellebore and *Gentiana Kurroo*.

The root of *Picrorhiza Kurroa* is somewhat purgative. The active principle is picrorhizin.

The authors of the *Pharmacographia Indica* say :—“ We can state from personal observation that it is used successfully as an antiperiodic in native practice : its slight laxative action is rather beneficial than otherwise.” (*Pharm. Indica*, Volume III, page 11.)

In the valuable observations already made for the Indigenous Drugs Committee, which tend to show the plant to be of service as a tonic, nothing is mentioned as to its purgative properties. Notes should be made upon them.

Reports on it were received as follows :—

CIVIL HOSPITAL, Parachinar, Kurram District. Medical Officer,  
CAPTAIN W. M. ANDERSON, I.M.S., M.D., Civil Surgeon.

#### *Case No. 1.*

Name of the patient H. ; Address, Kabul territory ; Age, 28 years ; Sex, Male ; Occupation, Zamindar ; Married or single, Married ; Race

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and Religion, Afghan, Mohamedan; Date and hour of admission, 10 A.M., 1st July 1906; Diagnosis, *Malarial fever*; Date of discharge, 15th July 1906.

*Opinion as to the value of the drug.*—Found to be of very little use as an antiperiodic and very inferior to quinine.

Date.	Condition of the patient.	Treatment.	Diet.
1st July 1906 ..	Admitted with temp. of 102.2°. Constipation. No enlargement of spleen. Bowels opened.	Podophyllum Em-odi gr. i. Tinet. Pierorhiza Kurroa dr. ½ t. d. s.	Own diet.
2nd July 1906 ..	Temp. morning 98.8°, evening 100.4°.	Continued ..	
3rd July 1906 ..	Temp. morning 98.8°, evening 98.6°.	Do. ..	
4th July 1906 ..	Temp. morning 98.4°, evening 102.8°.	Do. ..	
5th July 1906 ..	Temp. morning 98.4°, evening 102.4°.	Do. ..	
6th July 1906 ..	Temp. morning 97.2°, evening 98.6°.	Do. ..	
7th July 1906 ..	Temp. morning 98.4°, evening 103.8°.	Do. ..	
8th July 1906 ..	Temp. morning 97.2°, evening 98.4°.	Do. ..	
	After this date temperature remained normal. Patient being debilitated by the fever was kept in hospital till 15th and then discharged.		

## Case No. 2.

Name of the patient, A.; Address, Kabul; Age, 14 years; Sex, Male; Occupation, Labourer; Married or single, Single; Race and Religion,

Hazara, Mohamedan ; Date of admission, 14th May 1906 ; Diagnosis, *Malarial fever* ; Date of discharge, 28th May 1906 ; Result, Fever stopped after six days.

*Opinion as to the value of the drug.*—Found to be of very little use as an antiperiodic and very inferior to quinine.

Date.	Condition of the patient.	Treatment.	Diet.
14th May 1906 ..	On admission stated he had had fever for 7 days. Temp. 101·2°. No enlargement of spleen. Anæmic.	Tinct. Pierorhiza Kurroa $\frac{1}{2}$ dr. t.d.s. Podophyllum Emodi $\frac{1}{2}$ gr. repeated.	Rice.
15th May 1906 ..	Temp. morning 100°, evening 102·2°. Bowels open 3 times.	....	..
16th May 1906 ..	Temp. morning 99·2°, evening 100·6°.	....	..
17th May 1906 ..	Temp. morning 100·6°, evening 102·8°.	....	..
18th May 1906 ..	Temp. morning 98·8°, evening 101·4°.	....	..
19th May 1906 ..	Temp. morning 99·2°, evening 98·6°. Temperaturo subsequently remained normal.	....	..

Case No. 3.

Name of the patient B. ; Address, Zarnal (Kabul) ; Age, 60 years ; Sex, Male Occupation, Beggar ; Married or single, Widower ; Race and Religion, Mohamedan ; Date of admission, 16th April 1906 ; Diagnosis, *Malarial fever* ; Date of discharge, 24th May 1906 ; Result, Fever stopped after six days.

*Opinion as to the value of the drug.*—Found to be of very little use as an antiperiodic and very inferior to quinine.

Date.	Condition of the patient.	Treatment.	Diet.
16th April 1906 ..	Admitted with temp. of 101°. Spleen slightly enlarged. General condition good. Bowels open.	Tinct. Pierorhiza Kurroa $\frac{1}{2}$ dr. t. d. s.	Milk and rice.



Date.	Condition of the patient.	Treatment.	Diet.
17th April 1906..	Temp. morning 99·4°, evening 103·8°.	....	..
18th April 1906..	Temp. morning 101°, evening 101·4°.	....	..
19th April 1906..	Temp. morning 100·8°, evening 101·4°.	....	..
20th April 1906..	Temp. morning 99·8°, evening 100·8°.	....	..
21st April 1906..	Temp. morning 99°, evening 98·8°. Temperature did not go up again.	....	..

## Case No. 4.

Name of the patient, S.; Address, Toori Zeran; Age, 13 years.; Sex, Male; Occupation, Zamindar; Married or single, Single; Race and Religion, Toori Afghan, Mohamedan; Date and hour of admission, 11 A.M., 8th August 1906; Diagnosis, *Chronic Rheumatism and Dyspepsia*; Date of discharge, 30th August 1906; Result, Relieved.

*Opinion as to the value of the drug.*—Used in several cases as a tonic, but the results were not very satisfactory.

Date.	Condition of the patient.	Treatment.	Diet.
8th August 1906	Admitted with pain and swelling of several joints, anæmia, furred tongue and constipation.	Calomel gr. ii, Sod. Salycil., S o d . Bicarb. āā. grs. x. t.d.s.	Own diet.
12th August 1906	No pain or swelling of joints. Bowels opened.	Tinct. Picrorhiza ½ dr. t.d.s.	..
13th August 1906	Complained of palpitation of heart, pains all over body and diarrhœa.	Continued ..	..

Date.	Condition of the patient.	Treatment.	Diet.
14th August 1906	Three motions. Evening temperature 99°.	Continued ..	..
15th August 1906	Temperature morning 98.4°, evening 100.2°.	Do. ..	..
18th August 1906	Return of pain and swelling in joints. No appreciable benefit from Tinct. <i>Picrorhizae</i> .	Discontinued. Sod. Salycil. Sod. Bicarb. gr. x t.d.s.	..

## Case No. 5.

Name of the patient, A. A. ; Address, Patwari, Parachinar ; Age, 23 years ; Sex, Male ; Occupation, Labourer ; Married or single, Married ; Race and Religion, Toori Afghan, Mohamedan ; Date and hour of admission, 4 p.m., 11th August 1906 ; Diagnosis, *Dyspepsia* ; Date of discharge, 17th August 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—Used in several cases as a tonic, but the results were not very satisfactory.

Date.	Condition of the patient.	Treatment.	Diet.
11th August 1906	Admitted complaining of pain in stomach, loss of appetite and constipation. Tongue furred. Temp. normal.	Rheum Emodi gr. v. Pierorhiza Tinct. $\frac{1}{2}$ dr. t.d.s.	Own diet.
12th August 1906	No result .. .. No result .. ..	Rheum Emodi gr. v.	..
13th August 1906	One motion ..	Repeated gr. v ..	..
14th August 1906	Three motions. Tongue clearing. No pain.	Do. ..	..
16th August 1906	Much improved ..	Pierorhiza given regularly t.d.s. from 11th.	..
17th August 1906	Discharged ..	....	..

Lieutenant-Colonel H. A. Haines, M.D., R.A.M.C., Senior Medical Officer, Station Staff, Ambala, Punjab, reports :—" Tincture of *Picrorhiza* is a very useful drug."

Dr. F. X. de Attalides, L. M. & S., Superintendent of Jail, Katha, reports :—" *Picrorhiza Kurroa* was used in two cases of fever, but the results were not satisfactory."

Captain A. W. Grieg, I.M.S., Superintendent of Central Jail, Mandalay, tried *Picrorhiza Kurroa* and reported that he found to possess the properties ascribed to it.

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#### 4. REPORT ON ADHATODA VASICA.

Enquiry No. 4 is on the common Indian plant *Adhatoda Vasica*.  
*Vern.* :—*Arusa, adalsa*, HIND. ; *Bakas*, BENG.

A resumé of work up to the date of the last report was circulated as follows :—

*Purpose.*—To fully test the value of *Adhatoda Vasica* leaves in cases of bronchitis and asthma.

*Method.*—A tincture is supplied prepared from the leaves after the recipe of the *British Pharmacopœia, Indian and Colonial Addendum*, Government of India Edition 1901, page 45.

*Doses.*—Administer in doses of not more than 20 minims.

*Remarks.*—*Adhatoda Vasica* is an extremely common plant in India, and very widely resorted to as a remedy for asthma, bronchitis, phthisis and pneumonia. It would seem to be quite serviceable in cases of bronchitis and asthma. The following is a resumé of the reports already received :

In the experiments so far done (see *Proc. Indigenous Drugs Committee*, Vol. I., pages 387—418) Captain Childe, who used 30 minim doses of the tincture, reported that it did well in cases of bronchitis, especially in chronic bronchitis, but no benefit resulted in cases of phthisis. Lieutenant-Colonel Nailer reported that the drug was administered in chronic bronchitis, bronchial asthma and phthisis, and that he would not recommend its use in such cases. Lieutenant-Colonel Lee reported that it was a useful expectorant. Major Crawford reported that the drug was tried in several cases in the form of a tincture; it acted well in the latter stages of acute bronchitis. Assistant Surgeon W. D. Innes reported that the drug was used in cases of chronic bronchitis, its action was not very definite and not as effective as some of the drugs now in ordinary use. Captain Stewart, who used half drachm doses in a few cases of bronchitis and pneumonia, reported that it is as effective as ipecacuanha. Major Frenchman, who used the tincture in doses varying from m. xx to dr. i, reported that in 10 out of 24 cases of chronic and subacute bronchitis and bronchial catarrh, it was found efficacious and successful. It failed in 3 cases of phthisis that he tried. In 2 out of 3 cases of asthma it acted well. The full dose of dr. i causes nausea and griping, and, therefore, had to be reduced to m. xx. which was found sufficient. Major Bensley reported that the results of his trials with the drug in cases of bronchitis, asthma and phthisis were not hopeful. Captain K. Prasad reported that the results of his trial in cases of acute bronchitis were not satisfactory. Civil Surgeon Maddox reported that the drug has no useful febrifuge or antipyretic effect in fever. It possesses the expectorant properties of ipecacuanha. Major Russell reported that in two cases he tried, it was found far inferior to ipecacuanha. Major Mac-

namara reported that the drug was tried in two cases of asthma in drachm doses, and that no good effects were noticeable. Major Powell reported that the drug was tried in 11 cases of bronchitis in m. xx doses, and that the results were satisfactory, the effect being considered to be equivalent to half the quantity of vinegar of ipccacuanha.

“Strong testimony in favour of the remedial properties of the drug was furnished to the authors of the *Pharmacopœia of India* by Drs. Jackson and Dutt who employed it with marked success in chronic bronchitis, asthma and other pulmonary and catarrhal affections.  
\* \* \* \*” (*Pharmacographia Indica*, Volume III, page 51.)

The active principle is vasicine, an alkaloid. It has been found that this is present to the greatest quantity in leaves : and in the bark in slightly less quantity.

Leaves from Southern India have been found to be richer in the alkaloid than those from Northern India.

The following reports were received :—

CIVIL HOSPITAL, Parachinar, Kurram District. Medical Officer,  
CAPTAIN W. M. ANDERSON, I.M.S., M.D., Civil Surgeon.

*Case No. 1.*

Name of the patient, B.; Address, Parachinar; Age, 30 years; Sex, Female; Married or single, Married; Race and Religion, Hindu; Date of admission as an outdoor patient, 24th August 1906; Diagnosis, *Asthma*; Date of discharge, 29th September 1906; Result, Relieved.

*Opinion as to the value of the drug.*—Of temporary benefit in relieving the attacks of dyspnœa in asthma.

Date.	Condition of the patient.	Treatment.	Diet.
24th August 1906	A case of asthma suffering from attacks of dyspnœa at irregular but frequent intervals. It relieved the actual attacks and while the drug was being taken, the attacks were fewer and milder, but when the drug was discontinued after regular use for three weeks the asthmatic attacks returned as severely as before.	Tincture Adhatoda Vasicæ m. 20 t.d.s.	Own diet.



CAWNPORE STATION HOSPITAL, Cawnpore District. Medical Officer,  
LIEUTENANT BROOKE CHURCHILL, R.A.M.C.

*Case No. 2.*

Name of the patient E. ; Address, Cawnpore ; Age, 24 years ; Sex, Male ; Occupation, Lance-Corporal, Somersetshire Light Infantry ; Married or single, Single ; Date and hour of admission, 8 A.M., 6th July 1906 ; Diagnosis, *Bronchitis* ; Date of discharge, 5th September 1906 ; Result, Cure.

*Opinion as to the value of the drug.*—Seems a good expectorant.

Date.	Condition of the patient.	Treatment.	Diet.
	Patient has a chronic and obstinate cough and a small amount of expectoration.  No tubercle bacillus found in sputum. He has been taking a mixture containing Ipecac., Amm. Carb., and Squill for some time.	....	Full.
20th August 1906	....	Started on m. x doses of Adhatoda Vasica t. d. s. in oz. i of water.	..
24th August 1906	Patient states he is better, cough not so troublesome and looser.	....	..
5th Sept. 1906 ..	Patient discharged, cured.	....	..

MAYO HOSPITAL, Lahore. Medical Officer, CAPTAIN D. W. SUTHERLAND, I.M.S., M.D.

*Case No. 3.*

Name of the patient, B. ; Address, Lahore city ; Age, 50 years ; Sex, Female ; Occupation, Beggar ; Married or single, Widow ; Race and Religion, Hindu ; Date of admission, 7th October 1905 ; Diagnosis,

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*Emphysema, Bronchitis* ; Date of discharge, 31st October 1905 ; Result Relieved.

*Opinion as to the value of the drug.*—Expectorant action satisfactory.

Date.	Condition of the patient.	Treatment.	Diet.
18th Oct. 1905 ..	Troublesome cough. Expectoration difficult.	Tincture m. x. Aqua oz. i had every 4 hours.	Dal and bread.
20th October 1905	Cough somewhat relieved, expectoration easier.	....	..
23rd Oct. 1905 ..	Cough still less ; expectoration easy ; breathing less difficult.	....	..

*Case No. 4.*

Name of the patient, S. ; Address, District Jhang ; Age, 35 years ; Sex, Male ; Occupation, Cultivator ; Married or single, Married ; Race and Religion, Mohamedan ; Date and hour of admission, 11 A.M., 25th October 1905 ; Diagnosis, *Emphysema with Asthma* ; Date of discharge, 3rd November 1905 ; Result, Relieved.

*Opinion as to the value of the drug.*—Expectorant action satisfactory.

Date.	Condition of the patient.	Treatment.	Diet
25th Oct. 1905 ..	Had had emphysema of lungs for 4 years, and bronchitis from last day or so. Has difficulty in breathing and cough with white frothy expectoration.	Tincture Adhatoda Vasica m. xv Aqua oz. i every 4 hours.	Milk and bread.
28th Oct 1905 ..	After 3 days on treatment by Adhatoda Vasica patient is much relieved. Cough is much less, sputum is decreased in amount and dyspnoea is relieved.	....	..

Lieutenant-Colonel H. A. Haines, M.D., R.A.M.C., Senior Medical Officer, Station Staff, Ambala, Punjab, reports :—"Tincture of *Adhatoda Vasica* was used in a few cases of bronchitis, but its utility is not very marked."

Dr. F. X. de Attaites, L.M. & S., Superintendent of Jail, Katha, reports :—"Tincture of *Adhatoda Vasica* was used in a few cases of bronchitis and asthma. It seemed to act as a good expectorant and to relieve the difficulty of breathing in asthma."

Captain A. W. Greig, I.M.S., Superintendent of Central Jail, Mandalay, tried *Adhatoda Vasica* and reported that he found to possess the properties ascribed to it.

Major D. W. Sutherland, I.M.S., Professor of Medicine, Medical College, Lahore, remarks :—" *Adhatoda Vasica*—A good expectorant, and useful in bronchitis."

Captain J. C. S. Oxley, I.M.S., Civil Surgeon, Seoni, Central Provinces, remarks :—"Tincture of *Adhatoda Vasica* has not so far yielded satisfactory results."



## 5. REPORT ON CALOTROPIS.

Enquiry No. 5 of the Indigenous Drugs Committee is on the common plants *Calotropis procera* and *C. gigantea*—plants with, to the best of our knowledge, absolutely identical properties, and known in India by the same names *Ak*, *madar*, Hind.; *Akanda*, Beng. A note on them was circulated as follows:—

*Purpose.*—To determine the value of *Calotropis* in dysentery in the place of *ipecacuanha*. For the purpose two preparations have been made from it, *viz.*, a tincture and a powder. The tincture has been made up according to the recipe of the *British Pharmacopæia*.

*Dose:*—of the tincture  $\frac{1}{2}$ —1 fluid drachm;  
of the powder 5—10 grains.\*

*Remarks.*—The active principle of *Calotropis* has not been accurately determined, but it is believed to be a yellow bitter substance which makes but a very minute percentage of the plant's tissue.

In native Indian medicine the powdered root-bark of *Calotropis* is in considerable use. There can be no doubt that it is efficient as a drug, but the question before us is, is it as efficient as *ipecacuanha* for dysentery.

The following is a resumé of the trials reported to the Indigenous Drugs Committee:—

Captain Childe, who used the minimum doses of the tincture, reported that the drug was found useful in acute and subacute dysentery, but that in cases of chronic diarrhœa no good effect was observed. Lieutenant-Colonel Nailer reported that in 30 grains dose the drug acted as an efficient emetic in one case. Captain Waters reported that it was tried in two cases of mild dysentery and appeared to have a slight effect. Captain K. Prasad reported that the powder is a good substitute for *ipecacuanha* in dysentery and that the tincture is not so efficacious as the powder. Civil Surgeon Maddox reported that an initial dose of 5 grains of the powder first given produced violent vomiting and purging. The pulvis should be given at first in small doses gradually increased. The tincture given in 30 m. doses produced vomiting and purging. In 20 m. doses it however had not that effect, the dose should be gradually increased. Lieutenant-Colonel Bartholomeusz reported that he tried pulvis *C. procerae* in two cases of dysentery, but with no satisfactory results. Major Crawford reported that the drug was tried in several cases where *ipecacuanha* would otherwise have been administered and the results have not been very satisfactory. Major Maenamara reported that it was tried in a few cases,

\* As an alterative the powder may be used in doses of less than 10 grains; it is an emetic in doses of 30—60 grains.



but no good effects were noticeable. Assistant Surgeon Ganga Singh reported that the tincture and powder of *C. procera* have been used in bronchitis and dysentery and have been found efficacious. Major Powell reported that the tincture has been prescribed as a tonic and stomachic for debility and impaired appetite in five cases in doses of 20 m. with satisfactory results.

Reports were received as follows:—

KURRAM MILITIA HOSPITAL, Parachinar, Kurram District.  
Medical Officer, CAPTAIN W. M. ANDERSON, I.M.S., M.D., Civil Surgeon.

*Case No. 1.*

Name of the patient, S.; Address, Parachinar; Age, 34 years; Sex, Male; Occupation, Sepoy; Married or single, Married; Race and Religion, Mohamedan, Shia; Date and hour of admission, 4 P.M., 30th August 1906; Diagnosis, *Dysentery*; Date of discharge, 28th September 1906; Result, No benefit.

*Opinion as to the value of the drug.*—Found useful in mild sub-acute cases of dysentery, but recovery was slow. In severe cases it had little or no effect.

Date.	Condition of the patient.	Treatment.	Diet.
30th August 1906	Admitted in a very weak state, suffering from repeated watery motions consisting of mucus and blood. No faecal matter. Temp. normal in morning, 102° in evening.	Castor oil dr. ii Brandy oz. i.	Milk and corn flour.
31st August 1906	Twenty motions as above. Temperature morning 98·4°, evening 99°.	Tinct. Calotropis dr. ½ t.d.s. Brandy oz. i	..
1st Sept. 1906	50 motions. Evening temperature 100·8°.	Tinct. Calotropis continued.	..
2nd Sept. 1906	20 motions; less blood and mucus.	Do.	..
3rd Sept. 1906	12 motions containing some faecal matter. Temp. 99·6°.	Do.	..

Date.	Condition of the patient.	Treatment.	Diet.
4th Sept. 1906 ..	20 motions. No mucus or blood. No griping or straining.	Tinct. Calotropis continued.	
5th to 10th Sept. 1906.	An average of 16 motions a day—fluid, no blood or mucus.	Do.	
11th Sept. 1906	Temperature normal	Discontinued. Put on Bismuth and Opium.	

*Case No. 2.*

Name of the patient, S. ; Address, Parachinar ; Age, 22 years ; Sex, Male ; Occupation, Sepoy ; Married or single, Single ; Race and Religion, Mohamedan, Shia ; Date and hour of admission, 5 P.M., 1st September 1906 ; Diagnosis, *Dysentery* ; Date of discharge, 10th September 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—Found useful in mild sub-acute cases of dysentery, but recovery was slow. In severe cases it had little or no effect.

Date.	Condition of the patient.	Treatment.	Diet.
1st Sept. 1906 ..	Admitted complaining of loose motions and griping pain. Temp. was normal. On examination the stools contained blood and mucus.	Castor oil oz. $\frac{1}{2}$	Milk.
2nd Sept. 1906 ..	Five motions—accompanied by straining—dysenteric.	Tinct. Calotropis dr. $\frac{1}{2}$ t.d.s.	..
3rd Sept. 1906 ..	Five motions—blood and mucus less than before, no pain.	Continued.	..
4th Sept. 1906 ..	Six motions ..	Do.	..
5th Sept. 1906 ..	Five motions—fluid, but contained no blood or mucus.	Do.	..
6th Sept. 1906 ..	Two motions—semi-solid.	Do.	..
7th Sept. 1906 ..	One normal motion.		..
10th Sept. 1906	Discharged—cured		

## Case No. 3.

Name of the patient, S. A. ; Address, Parachinar ; Age, 20 years ; Sex, Male ; Occupation, Sepoy ; Married or single, Single ; Race and Religion, Mohamedan, Shia ; Date and hour of admission, 8 A.M., 5th September 1906 ; Diagnosis, *Dysentery* ; Date of discharge, 20th September 1906 ; Result, Relieved.

*Opinion as to the value of the drug.*—Found useful in mild sub-acute cases of dysentery but recovery was slow. In severe cases it had little or no effect.

Date.	Condition of the patient.	Treatment.	Diet.
5th Sept. 1906..	Admitted complaining of repeated watery motions and griping pain in abdomen. Temperature 100°. Motions fluid, contained blood and mucus twelve in 24 hours. Spleen enlarged.	Castor oil dr. ii	Milk.
6th Sept. 1906 ..	Eight motions, similar in character. Temperature morning 98·4°, evening 100°.	Tinct. Calotropis dr. $\frac{1}{2}$ t.d.s.	..
7th Sept. 1906 ..	Five motions, containing mucus but no blood. Evening temp. 99·2°.	Do	..
8th Sept. 1906 ..	Four motions as above. Temperature normal.	Mixture containing Quas. Liq. Ferri perchlor. and Magn. Sulph.	Milk and rice.
9th Sept. 1906..	Four motions as above. Temperature 99°.		..
10th Sept. 1906..	Three motions. No mucus. Temp. 99·4°.		

## Case No. 4.

Name of the patient, S. S. ; Address, Parachinar ; Age, 30 years ; Sex, Male ; Occupation, Havildar ; Married or single, Married ; Race and Religion, Mohamedan, Shia ; Date and hour of admission, 4 P.M., 18th September 1906 ; Diagnosis, *Dysentery* ; Result, Cured.

*Opinion as to the value of the drug.*—Found useful in mild sub-acute cases of dysentery, but recovery was slow. In severe cases it had little or no effect.

Date.	Condition of the patient.	Treatment.	Diet.
18th Sept. 1906..	Admitted complain- ing of diarrhœa. Frequent loose mo- tions, containing blood and mucus. Gripping pain, normal temperature.	Castor oil dr. iv.	Milk.
19th Sept. 1906	Nine motions ..	Tinct. Calotropis dr. $\frac{1}{2}$ t.d.s.	..
21st to 24th Sept. 1906.	Average of nine motions daily containing blood and mucus. Flatu- lence.	Continued.	
25th Sept. 1906..	As there was no im- provement Calotro- pis was disconti- nued.	Substitute Sol. of Magn. Sulph. dr. i every 2 hours.	..
28th Sept. 1906..	Markedly improved, no blood or mucus or pain. Eight motions.	....	..

## Case No. 5.

Name of the patient, S. M. M. ; Address, Parachinar ; Age, 24 years ; Sex, Male ; Occupation, Sepoy ; Married or single, Married ; Race and Religion, Mohamedan, Sunni ; Date and hour of admission, 4 P.M., 18th September 1906 ; Diagnosis, *Dysentery* ; Date of discharge, 25th September 1906 ; Result, Cured.

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*Opinion as to the value of the drug.*—Found useful in mild sub-acute cases of dysentery, but recovery was slow. In severe cases it had little or no effect.

Date.	Condition of the patient.	Treatment.	Diet.
18th Sept. 1906	Admitted complaining of griping pain and diarrhoea, frequent motions containing blood and mucus.	Castor oil dr. i.	Milk.
19th Sept. 1906	Eight motions ..	Tinet. Calotropis	..
20th Sept. 1906	Twelve motions, blood and mucus diminished.	dr. $\frac{1}{2}$ t.d.s.	..
21st to 24th Sept. 1906.	General improvement, only 2 motions on 24th.	Continued.	..
25th Sept. 1906..	Discharged.		

MAYO HOSPITAL, Lahore. Medical Officer, CAPTAIN D. W. SUTHERLAND, I.M.S., M.D.

*Case No. 6.*

Name of the patient, M. N.; Address, Lahore; Age, 28 years; Sex, Male; Occupation, Mendicant; Married or single, Married; Race and Religion, Hindu; Date of admission, 17th December 1905; Diagnosis, *Chronic Dysentery*.

*Opinion as to the value of the drug.*—Unsatisfactory.

Date.	Condition of the patient.	Treatment.	Diet.
18th Dec. 1905..	Has had dysentery occasionally from last year. Present attack has lasted 8 days. Patient is passing 18 to 20 stools a day with mucus and slime, straining tenesmus. Given half drachm doses of Tinet. every 4 hours.	Tinet. Calotropis dr. $\frac{1}{2}$ , Aqua oz. i every 4 hours.	Milk (plain).



Date.	Condition of the patient.	Treatment.	Diet.
19th Dec. 1905	No improvement ; passed 20 motions of the same nature and same discomfort.	....	..
20th Dec. 1905..	No improvement ; passed 18 motions of the same nature and same discomfort. Treatment dis- continued.	....	..

Lieutenant-Colonel H. A. Haines, M.D., R.A.M.C., Senior Medical Officer, Station Staff, Ambala, Punjab, reports:—"Calotropis acted, I think, well in dysentery, but I had not a sufficient number of cases to try it on."

Dr. F. X. de Attalides, I.M. & S., Superintendent of Jail, Katha, reports:—"Tincture of *Calotropis procera* appeared to do good in a case of acute dysentery. Four up xv doses of the tincture in a day changed the stools, which previously contained blood and slime, to semi-fluid and of a greenish yellow colour devoid of blood or slime. The frequency of motions continued for the next few days, but unaccompanied with gripes or pain. In a week's time the patient was discharged cured. The drug seems to be a good cholagogue."

Captain C. Dykes, M.B., I.M.S., Civil Surgeon, Rai Bareli, reports:—"With tincture of *Calotropis (madar)* I obtained good results in the treatment of dysentery—results as good as but not I think better than those ordinarily obtained in mild cases by the use of sodium and magnesium sulphate. I did not have the opportunity of trying "*madar*" in any unusually severe cases. As it appeared to have no special advantage over the sulphate and as its Galenical preparations would be much more troublesome and expensive to make than the latter, its introduction in the form of tincture does not appear to me to be indicated. I hope, however, to renew the experiments with crude preparations of the fresh plant which is readily obtainable here."

Major D. W. Sutherland, I.M.S., Professor of Medicine, Medical College, Lahore, remarks:—"Calotropis procera—in my hands has not proved of much value in dysentery."



## 6. REPORT ON CUTCH FROM ACACIA CATECHU.

The sixth enquiry of the Indigenous Drugs Committee was on *Acacia catechu* : but at their meeting on December 17th, 1904, the Committee decided to discontinue it, because the use of cutch needs no demonstration ; and it was only necessary instead to determine a standard for the drug. The Committee further understood that Mr. Hooper was engaged upon a study of Indian cutches, and that his results would soon be available.

Subsequently Mr. Hooper, on request, supplied to the Committee the following note suggesting that the standard for gambier should be the standard for cutch :—

“ In the *Agricultural Ledger* No. 3 of 1906 it is shown that the extract called cutch or catechu made from the wood of *Acacia catechu* is similar in composition to the gambier extract made in the Malay States from the plant *Uncaria gambier*. This is specially noticed in the Kumaon and Janakpuri cutches of Northern India which contain the same amount of catechin as gambier. Cutch and gambier are used for similar purposes in the arts and in medicine, and are sold side by side in the native druggists' shops. The tests for purity are the same ; good samples should yield between 60 and 70 per cent. to 10 per cent. alcohol, and should yield on ignition not more than 5 per cent. of mineral matter.”

In the *Agricultural Ledger*, referred to, on pages 41-42, is a table which shows that about twenty-five per cent. of Indian cutches fall below this standard and it appears that this is frequently by reason of adulteration.



## 7. REPORT ON CAESALPINIA BONDUCELLA.

The seventh enquiry of the Indigenous Drugs Committee is on *Cæsalpinia Bonducella*.

*Vern.*—Bonduc nut, Eng.; *Katkaranj*, *sagarghola*, Hind.; *Jhagra gula*, Beng.

The Committee circulated the following note, but have no experiments to report:—

*Purpose.*—To ascertain the value of the seed of *Cæsalpinia Bonducella* as a febrifuge.

*Method.*—A powder of the seed is supplied, to be administered in cases of malarial fever.

*Dose.*—10—15 grains, three times a day.

*Remarks.*—The seeds of *Cæsalpinia Bonducella* are used everywhere in India as a tonic and febrifuge, generally they are mixed with black pepper. In taste they are very bitter. The bitter principle has been isolated and experimented with by Dr. Isnard, Chief Medical Officer to the Marseilles Customs. In doses of 10—20 centigrammes, he says, it is as efficient as quinine.

In the *Dictionary of Economic Products* are cited a number of opinions of authors, some of whom say that this drug if given in large doses causes nausea, and several that it can be used for quinine (though much inferior to it) in dispensary practice where economy is necessary.





## 8. REPORT ON IPOMOEA HEDERACEA.

Enquiry No. 8 of the Indigenous Drugs Committee is on *Ipomœa hederacea*. A note was circulated as follows outlining the investigation :—

*Purpose.*—To determine the value of *Ipomœa hederacea* as a purgative.

*Method.*—For the purpose of testing this, a powder of the seeds is supplied. It is made according to the recipe of the *British Pharmacopœia* for Pulv. Jalapæ.

*Dose.*— $\frac{1}{2}$ —1 drachm.

*Note.*—*Ipomœa hederacea* is well known as a remedy in the bazaars of India under the name of *Kala dana*. The active principle is said to be a pale yellow resin which makes up 8·2 per cent. of the seed. When fully studied this resin may prove identical with the resin which jalap contains.

So far as we know at present there is absolutely nothing to prevent this indigenous plant replacing imported jalap.

Reports were received as follows :—

KURRAM MILITIA HOSPITAL, Parachinar, Kurram District. Medical Officer, CAPTAIN W. M. ANDERSON, I.M.S., M.D., Civil Surgeon.

### Case No. 1.

Name of the patient, K. A. ; Address, Parachinar ; Age, 30 years ; Sex, Male ; Occupation, Sepoy ; Married or single, Married ; Race and Religion, Mohamedan, Shia ; Date and hour of admission, 4 P.M., 17th January 1906 ; Diagnosis, *Ague with Constipation* ; Date of discharge, 30th January 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—That it is a useful purgative and acts as a hydragogue producing watery evacuations. It requires to be given in doses of one to two drachms.

Date.	Condition of the patient.	Treatment.	Diet.
17th Jan. 1906..	Temperature 103·8° ; spleen 2" below costal border ; constipation.	Pulv. Jalap Co. dr.i	Milk and rice.

Date.	Condition of the patient.	Treatment.	Diet.
18th Jan. 1906..	Temperature 101° ..	Quinine gr. x ..	..
21st Jan. 1906 ..	Temperature 103°. One action next morning.	Ipomœa dr. ½ ..	..
23rd Jan. 1906..	Temperature 100·6°. No action.	Ipomœa dr. i Quin. and Phen. āā. gr. iv every 4 hours.	..
24th Jan. 1906..	Temperature 101°. One action in the afternoon. No result.	Ipomœa drs. 1½ 9 A.M. Ipomœa drs. ii 8 P.M.	..
25th Jan. 1906..	Temperature 98·6°.	Ipomœa drs. ii 8 P.M.	..
26th Jan. 1906..	One motion 5 A.M. Temperature ° 98°. Two loose motions.	Ipomœa drs. ii 8 P.M.	..

*Case No. 2.*

Name of the patient, G. H. K. ; Address, Kurram ; Age, 26 years ; Sex, Male ; Occupation, Lance-Naiek ; Married or single, Married ; Race and Religion, Mohamedan, Shia ; Date and hour of admission, 9 A.M., 1st February 1906 ; Diagnosis, *Constipation* ; Date of discharge, 3rd February 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—That it is a useful purgative and acts as a hydragogue producing watery evacuations. It requires to be given in doses of one to two drachms.

Date.	Condition of the patient.	Treatment.	Diet.
1st Feb. 1906	Admitted for constipation and some debility. Two motions at 6 and 10 P.M.	Ipomœa drs. 1½ 10 A.M.	Milk and rice.
2nd Feb. 1906	One motion.	....	..
3rd Feb. 1906	Discharged.	....	..

## Case No. 3.

Name of the patient, M. A. ; Address, Kurrām ; Age, 22 years ; Sex, Male ; Occupation, Sepoy ; Married or single, Married ; Race and Religion, Mohamedan, Shia ; Date and hour of admission, 9 A.M., 27th January 1906 ; Diagnosis, *Ague with constipation* ; Date of discharge, 2nd February 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—That it is a useful purgative and acts as a hydragogue producing watery evacuations. It requires to be given in doses of one to two drachms.

Date.	Condition of the patient.	Treatment.	Diet.
27th Jan. 1906 ..	Admitted with temperature 103° and constipation for two days. Result four motions, quite loose, at 12 noon, 3 P.M., 4-30 P.M. and at night.	Ipomœa drs. 1½ 11 A.M. Extra. Andrographis dr. i t.d.s.	Milk and rice. ..
28th Jan. 1906 ..	Temperature 101·4°. Result one motion.	Extra. Andrographis dr. i t. d. s.	..
29th Jan. 1906 ..	Temperature 97°. Result two motions.	Continued ..	..
30th Jan. 1906 ..	Temperature 97·4°. Result two motions.	Do. ..	..
31st Jan. 1906 ..	Temperature 97°. Result one motion.	Do. ..	..
1st Feb. 1906 ..	Temperature 97°. Result one motion.	Do. ..	..
2nd Feb. 1906 ..	Discharged.		

## Case No. 4.

Name of the patient, H. J. ; Address, Kurrām ; Age, 26 years ; Sex, Male ; Occupation, Naick ; Married or single, Married ; Race and Religion, Mohamedan, Shia ; Date and hour of admission, 10 A.M., 24th January 1906 ; Diagnosis, *Constipation* ; Date of discharge, 28th January 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—That it is a useful purgative and acts as a hydragogue producing watery evacuations. It requires to be given in doses of one to two drachms.

Date.	Condition of the patient.	Treatment.	Diet.
24th Jan. 1906 ..	Admitted with a temperature of 101.4° and constipation. Result 3 motions at 4, 5 and 11 P.M.	Ipomœa drs. 1½ 10 A.M.	Milk and rice.
25th Jan. 1906 ..	Temperature 98°. No motion.	No other treatment.	..
26th Jan. 1906 ..	Temperature 98°. One motion.	....	..
27th Jan. 1906 ..	Temperature 98°. One motion.	....	..
28th Jan. 1906 ..	One motion. Discharged.	....	..

*Case No. 5.*

Name of the patient, K. A. ; Address, Kurram ; Age, 28 years ; Sex, Male ; Occupation, Havildar ; Married or single, Married ; Race and Religion, Mohamedan ; Date and hour of admission, 5 P.M., 26th January 1906 ; Diagnosis, *Malarial Cachexia with Constipation* ; Date of discharge, 10th February 1906 ; Result, Relieved.

*Opinion as to the value of the drug.*—That it is a useful purgative and acts as a hydragogue producing watery evacuations. It requires to be given in doses of one to two drachms.

Date.	Condition of the patient.	Treatment.	Diet.
26th Jan. 1906 ..	Admitted with a temperature of 103°. Spleen enlarged to 3" below costal border ; constipation. No action.	Ipomœa dr. i 7 P.M.	Milk and rice.
27th Jan. 1906 ..	Temperature normal. One action at 4 P.M.	Ipomœa dr. i 11 A.M.	..
28th Jan. 1906 ..	Temperature normal. No action.	....	..



Date.	Condition of the patient.	Treatment.	Diet.
29th Jan. 1906 ..	Temperature normal. One action.	....	..
30th Jan. 1906 ..	Temperature normal. No action.	....	..
31st Jan. 1906 ..	Temperature normal. One action.	....	..
1st Feb. 1906 ..	Temperature normal. One action.	As. Quin. and Iron with Magn. Sulph.	..

CAWNPORE STATION HOSPITAL, Cawnpore District. Medical Officer, LIEUTENANT W. HYDE HILLS, R.A.M.C.

*Case No. 6.*

Name of the patient, M.; Address, Cawnpore; Age, 24 years; Sex, Male; Occupation, Soldier (private), Somersetshire Light Infantry; Date of admission, 19th March 1906; Diagnosis, *Gonorrhœa*; Date of discharge, 30th April 1906.

Date.	Condition of the patient.	Treatment.	Diet.
	Patient states that when on duty his bowels are regularly opened. Motions usually soft. While in hospital (39 days) bowels became constipated, only acting every other day. Mist. Alba had to be frequently taken.	....	..
25th April 1906. .	Bowels last opened 23rd April 1906.	<i>Ipomœa hederacea</i> dr. $\frac{1}{2}$ at 9-30 A.M.	..
..	Bowels acted 2 P.M. and 6 P.M. Good result. Loose motions. No griping.	....	..

## Case No. 7.

Name of the patient, C.; Address, Cawnpore; Age, 23 years; Sex, Male; Occupation, Private, Somersetshire Light Infantry; Married or single, Single; Date of admission, 20th March 1906; Diagnosis, *Stricture of urethra*; Date of discharge, 8th May 1906.

*Opinion as to the value of the drug.*—Mild purge.

Date.	Condition of the patient.	Treatment.	Diet.
..	Bowels .. habitually move daily, but constipated since in hospital, needing white mixture every other day.	....	..
26th April 1906..	Bowels did not act till 7 A.M., 28th April 1906. Motion hard and small, no griping.	<i>Ipomœa hederacea</i> dr. i at 8-30 A.M.	..
28th April 1906..	Bowels acted 9 P.M., same date. Motion hard and small. No griping.	<i>Ipomœa hederacea</i> drs. 1½ at 10 A.M.	..

CAWNPORE STATION HOSPITAL, Cawnpore District. Medical Officer, LIEUTENANT BROOKE CHURCHILL, R.A.M.C.

## Case No. 8.

Name of the patient, B.; Address, Cawnpore; Age, 24 years; Sex, Male; Occupation, Gunner, 74th Battery, R. F. A.; Married or single, Single; Date of admission, 14th August 1906 at 7 A.M.; Diagnosis, *Gonorrhœa*.

*Opinion as to the value of the drug.*—Mild purge.

Date.	Condition of the patient.	Treatment.	Diet.
20th August 1906 (7 P.M.).	Constipated ..	<i>Ipomœa hederacea</i> grs. xl.	Milk.
21st August 1906	No effect. Bowels eventually opened with Mag. Sulph.	..	..

## Case No. 9.

Name of the patient, E. ; Address, Cawnpore ; Age, 29 years ; Sex, Male ; Occupation, Corporal, Somersetshire Light Infantry ; Married or single, Single ; Date of admission, 17th July 1906 ; Diagnosis, *Effects of heat* ; Date of discharge, 31st July 1906 ; Result, Recovered.

*Opinion as to the value of the drug.*—Mild purge.

Date.	Condition of the patient.	Treatment.	Diet.
27th July 1906 ..	Patient constipated for a couple of days.	<i>Ipomœa hederacea</i> dr. $\frac{1}{2}$ 7 P.M.	Con v a l e s - cent roast beef.
28th July 1906 ..	5 A.M. Loose dark motion.	....	..

Captain A. W. Greig, I.M.S., Superintendent of Central Jail, Mandalay, tried *Ipomœa hederacea* and reported that he found to possess the properties ascribed to it.

Dr. F. X. de Attaites, L.M. & S., Superintendent of Jail, Katha, reports :—" *Ipomœa hederacea* acts efficiently as a purgative and is a good substitute for jalap."

Lieutenant-Colonel H. A. Haines, M.D., R.A.M.C., Senior Medical Officer, Station Staff, Ambala, Punjab, reports :—" Pulv. *Ipomœæ hederacæ* was used extensively as a purgative and results were excellent."

Captain J. C. S. Oxley, I.M.S., Civil Surgeon, Seoni, Central Provinces, reports :—" *Kala dana* has been long used in dispensary practice as a cheap or efficient purgative. It has a griping tendency, and is therefore combined with ginger and black pepper. Thus—*Kala dana* grs. 45, black pepper grs. v, ginger 10 grs., given in one dose, produced 4 watery motions. No griping acted in 4 hours."



## 9. REPORT ON ANDROGRAPHIS PANICULATA.

Enquiry No. 9 of the Indigenous Drugs Committee is on *Andrographis paniculata*.

Vern.—*Kiryat*, HIND. ; *Kalmeg*, BENG. ; *Nila-vémbu*, TAM.

A note was circulated as follows :—

*Purpose*.—To ascertain how far preparations of *Andrographis paniculata* can be used as substitutes for chiretta and quassia, and, more important, for quinine.

*Method*.—For the purpose a liquid alcoholic extract is supplied.

*Way to use it*.—Administer—

(i) in cases of malarial fever,

(ii) when chiretta and quassia would be used,

in doses of half to one drachm two or three times a day.

*Remarks*.—*Andrographis paniculata* is very extensively used in India as a remedy for malaria and also in dysentery and diarrhœa. It is not unlikely that in the bazaars it and Indian chiretta are offered rather indiscriminately. It is also the basis of an English “patent” tonic. Ward, in the *Pharmaceutical Journal* LV, page 197, remarks that there are so many bitters in England that there is little call to resort to it. But in India there are not so many, and the plant is so common that the drug is very readily available. The whole of it is medicinal. Boorsma (*Mededeelingen uit S’Lands Plantentuin* XVIII, 66) reports that the plant may contain an alkaloid, but that he could not definitely prove its presence. The bitter principle is another substance—a crystalline glucoside, most abundant in the leaves, which Boorsma calls “andrographid.” Its chemical properties were to some extent investigated by Boorsma, but no one has yet had it isolated in quantity for pharmacological examination.

The following reports were received :—

KURRAM MILITIA HOSPITAL, Parachinar, Kurram District.  
Medical Officer, CAPTAIN W. M. ANDERSON, I.M.S., M.D., Civil Surgeon.

### Case No. 1.

Name of the patient, M. A.; Address, Parachinar ; Age, 22 years ; Sex, Male ; Occupation, Sepoy ; Married or single, Married ; Race and Religion, Mohamedan, Shia ; Date and hour of admission, 9 A.M., 27th January 1906 ; Diagnosis, *Ague* ; Date of discharge, 2nd February 1906 ; Result, Cured.



*Opinion as to the value of the drug.*—Has been found useful in mild cases of malarial fever, but in severe cases has had little effect; when a few doses of quinine have brought the temperature down to normal.

Date.	Condition of the patient.	Treatment.	Diet.
27th Jan. 1906 ..	Admitted with temperature 103° and constipation for 2 days. Four motions, quite loose, at 12 noon, 3 P.M., 4-30 P.M. and at night.	Extra. Andrographis dr. i t. d. s. Ipomœa drs. 1½ 11 A. M.	Milk and rice.
28th Jan. 1906 ..	Temperature 101·4°. One motion.	Extra. Andrographis dr. i t. d. s.	
29th Jan. 1906 ..	Temperature 97°. Two motions.	Continued ..	..
30th Jan. 1906 ..	Temperature 97·4°. Two motions.	Do. ..	..
31st Jan. 1906 ..	Temperature 97°. One motion.	Do. ..	..
1st Feb. 1906 ..	Temperature 97°. One motion.	Do. ..	..
2nd Feb. 1906 ..	Discharged.	....	..

*Case No. 2.*

Name of the patient, M.; Address, Parachinar; Age, 30 years; Sex, Male; Occupation, Sepoy; Married or single, Married; Race and Religion, Mohamedan, Shia; Date and hour of admission, 5 P.M., 29th January 1906; Diagnosis, *Ague*; Date of discharge, 2nd February 1906; Result, Cured.

*Opinion as to the value of the drug.*—Has been found useful in mild cases of malarial fever, but in severe cases has had little effect; when a few doses of quinine have brought the temperature down to normal.

Date.	Condition of the patient.	Treatment.	Diet.
29th Jan. 1906 ..	Admitted for ague. Temperature 102°. Four motions.	Ipomœa drs. 1½	Milk and rice.
30th Jan. 1906 ..	Temperature morning 99·2°, evening 99·8°.	Extra. Androg. pan. dr. i t. d. s.	....

Date.	Condition of the patient.	Treatment.	Diet.
31st Jan. 1906 ..	Temperature 97.4° ..	Extra. Androg. pan. dr. i t.d.s.	..
1st Feb. 1906 ..	Temperature 98.4° ..	Ditto ..	..
2nd Feb. 1906 ..	Discharged ..	....	..

*Case No. 3.*

Name of the patient, S.; Address, Parachinar; Age, 22 years; Sex, Male; Occupation, Sepoy; Married or single, Single; Race and Religion, Mohamedan, Sunni; Date and hour of admission, 7 P.M., 5th July 1906; Diagnosis, *Malarial fever*; Date of discharge, 12th July 1906; Result, Cured.

*Opinion as to the value of the drug.*—Has been found useful in mild cases of malarial fever, but in severe cases has had little effect; when a few doses of quinine have brought the temperature down to normal.

Date.	Condition of the patient.	Treatment.	Diet.
5th July 1906 ..	Admitted with a temperature of 102° and constipation, no enlargement of spleen.	Calomel grs. iii ..	Milk.
6th July 1906 ..	Temperature morning 100.2°, evening 100.6°. Three motions.	Pulv. Jalap Co.dr. i	..
7th July 1906 ..	Temperature morning 100°, evening 99.2°. Bowels not opened.	Extra. Androg. pan. dr. i t. d. s.	..
8th July 1906 ..	Temperature morning 101.4°, evening 100.2°. No motion.	Continued. Pil. Colocyn. and Calomel.	..
9th July 1906 ..	Temperature 97.2°, and it did not rise again.	Extra. Andrographis continued till discharge.	Milk and rice.
12th July 1906..	Discharged—cured.	....	

## Case No. 4.

Name of the patient, K. N. ; Address, Parachinar ; Age, 27 years ; Sex, Male ; Occupation, Sepoy ; Married or single, Married ; Race and Religion, Mohamedan, Shia ; Date and hour of admission, 7 P.M., 6th July 1906 ; Diagnosis, *Ague* ; Date of discharge, 22nd July 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—Has been found useful in mild cases of malarial fever, but in severe cases has had little effect ; when a few doses of quinine have brought the temperature down to normal.

Date.	Condition of the patient.	Treatment.	Diet.
6th July 1906 ..	Admitted with a temperature of 103·6°. Constipated. No enlargement of spleen.	Calomel grs. iii.	Milk.
7th July 1906 ..	Temperature morning 100·2°, evening 104·6° Seven motions.	P. Jalap Co. dr. i 7 A.M.	..
8th July 1906 ..	Temperature morning 101·6°, evening 104°.	Extra. Andrographis panie. dr. i t. d. s.	..
9th July 1906 ..	Temperature morning 100·8°, evening 103·8°.	Continued ..	..
10th July 1906..	Temperature morning 99·2°, evening 101°.	Quinine gr. x b.d.*	..
11th July 1906..	Temperature morning 100°, evening 98°.	Continued ..	..
12th July 1906..	Temperature morning 98·4°, evening 100·6°.	Do. ..	..
13th July 1906..	Temperature morning 99·2°, evening 99°.	Do. ..	Milk and rice.
14th July 1906..	Temperature normal and did not rise again. Bowels regular from 9th.	....	..
22nd July 1906..	Discharged to duty.		

\* Extra. Androg. discontinued as the man had had high fever for 4 days and it appeared to be doing no good.

CAWNPORE STATION HOSPITAL, Cawnpore District. Medical Officer, LIEUTENANT BROOKE CHURCHILL, R.A.M.C.

Case No. 5.

Name of the patient, W.; Address, Cawnpore; Age, 26 years; Sex, Male; Occupation, Private, 1st Somersetshire Light Infantry; Married or single, Single; Date and hour of admission, 8 A.M., 22nd August 1906; Diagnosis, *Fever*.

*Opinion as to the value of the drug.*—Not formed, as treatment discontinued.

Date.	Condition of the patient.	Treatment.	Diet.
24th August 1906	Patient came in with fever.	....	..
	Slide of blood sent for examination.	....	..
	Disease proves to be enteric; this treatment discontinued.	Androg. panic. dr. $\frac{1}{2}$ t. d. s.	..

MAYO HOSPITAL, Lahore Medical Officer, CAPTAIN D. W. SUTHERLAND, I.M.S., M.D.

Case No. 6.

Name of the patient, W.; Address, Kangra; Age, 35 years; Sex, Male; Occupation, Servant; Married or single, Single; Race and Religion, Hindu; Date of admission, 10th January 1906; Diagnosis, *Chronic Dysentery*; Date of discharge, 20th January 1906; Result, Cured.

*Opinion as to the value of the drug.*—Action beneficial.

Date.	Condition of the patient.	Treatment.	Diet.
16th Jan. 1906..	Has been suffering from chronic dysentery for 3 months. On admission on 10th January passed 38 motions—under soda and bismuth and boric lotion irrigation these were reduced	Androg. paniculata dr. $\frac{1}{2}$ every 4 hours.	Milk (plain).

Date.	Condition of the patient.	Treatment.	Diet.
	on the 13th January to one motion daily. On the 16th former treatment was stopped and Andrographis begun.		
17th Jan. 1906	Passed only one motion. Complains, however, of uneasiness in the abdomen and continuous desire to go to stools.	....	..
18th Jan. 1906.	Passed only one motion; still has same discomfort in the abdomen. Given drs. vi of castor oil.	....	..
19th Jan. 1906.	Passed 4 motions after oil, still with mucus.	....	..
20th Jan. 1906	Passed one motion	....	..

## Case No. 7.

Name of the patient, M. N. ; Address, Lahore ; Age, 28 years ; Sex, Male ; Occupation, Mendicant ; Married or single, Married ; Race and Religion, Hindu ; Date of admission, 17th December 1905 ; Diagnosis, *Chronic Dysentery* ; Date of discharge, 25th January 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—Action beneficial.

Date.	Condition of the patient.	Treatment.	Diet.
12th Jan. 1906.	A case of chronic dysentery, present at attack having lasted 31 days. Motions at first 15 to 20 daily, reduced under acid mercurial mixture, soda and bismuth and irrigation with boric and alum lotions to one or two motions daily.	Androg. paniculata dr. $\frac{1}{2}$ every 4 hours.	Milk only.



Date.	Condition of the patient.	Treatment.	Diet.
13th Jan. 1906 ..	Yesterday the patient passed only one motion and was free of discomfort. Patient has passed 3 motions since yesterday and again complains of pain and discomfort in the abdomen.	....	..
14th Jan. 1906 ..	Patient worse than before. Passed 5 motions and had pain after taking the medicine.	....	..
15th Jan. 1906 ..	Feels much better, only 2 motions and more faecal than before. Now he has no pain. Feels appetite returning.	....	..
16th Jan. 1906 ..	Passed no motion; he is free of all discomfort.	....	..
17th Jan. 1906 ..	No motion ..	Given Ol. Ricini dr. v.	Allowed <i>khir</i> as diet.
18th Jan. 1906 ..	Passed two motions after the oil. No discomfort whatever.	....	..
20th Jan. 1906 ..	Passed one motion yesterday; no motions to-day. Complains of great hunger. He is getting milk and rice and seems to be doing well.	....	..
22nd Jan. 1906 ..	He is now doing well. One motion daily.	....	Allowed milk and bread.
24th Jan. 1906 ..	Still doing well. One natural motion daily. He is digesting milk and bread. Medicinal treatment throughout has been Ext. Androg. panic. Liq. dr. $\frac{1}{2}$ aqua ad oz i every 4 hours.	....	..

Major D. W. Sutherland, I.M.S., Professor of Medicine, Medical College, Lahore, remarks :—" *Andrographis paniculata*—of some value in the treatment of dysentery."

Dr. F. X. de Attaiides, L.M. & S., Superintendent of Jail, Katha, reports :—" *Andrographis paniculata* is a good tonic and was used in place of chiretta with satisfactory results."

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## 10. REPORT ON EMBELIA.

Enquiry No. 10 of the Indigenous Drugs Committee is on *Embelia*.

*Vern.* :—*Viranga*, *babirang*, HIND. ; *Biranga*, BENG.

The following note was circulated :—

*Purpose.*—To further test the value of *Embelia ribes* and *Embelia robusta* as substitutes for male fern.

*Method.*—A powder of the berries of *Embelia ribes* is distributed for the purpose of testing.

*Dose.*—1—4 drachms with milk daily in the morning for 8—10 days, a purgative being given as a preliminary on the first day.

*Note.*—*Embelia* fruits are extensively sold in the bazars of India, but nearly always mixed with peppercorns. The preparation forwarded is perfectly pure. It is used not only for worms but externally to cure certain skin diseases.

*Tænia* is said to be expelled dead by it.

The drug is not so griping as male fern and is often given, a few fruits at a time, to quiet young children in the idea that it prevents flatulence. The fresh fruit is even said to be used as a famine food.

Dr. Harris (*Lancet*, July 23rd, 1887) has directed attention to the value of this drug as a remedy for tape worm. He states that he has “administered it for several years with good results to natives of India and Europeans.”

Warden (*Pharm. Journal*, January 1888) separated from the fruit a substance in the form of brilliant golden spangles having the properties of an acid which he named embelic acid. He prepared a salt of embelic acid with ammonia which was found effective as an anthelmintic, in doses of 3 grains for children and 6 grains or more for adults.

The following report was received :—

MAYO HOSPITAL, Lahore. Medical Officer, CAPTAIN D. W. SUTHERLAND, I.M.S., M.D.

### Case No. 1

Name of the patient, S. ; Address, Nurpur, District Jhelum ; Age, 23 years ; Sex, Male ; Occupation, Cultivator ; Married or single,

Married ; Race and Religion, Mohamedan ; Date of admission, 10th November 1905 ; Diagnosis, *Erb's juvenile muscular dystrophy*.

*Opinion as to the value of the drug.*—No appreciable effect.

Date.	Condition of the patient.	Treatment.	Diet.
10th Nov. 1905..	Patient was passing segments of <i>Tenia mediocanellata</i> .	Pulv. Embelia Ribes dr. iv. In milk every morning.	Bread and pulse.
22nd Nov. 1905..	Patient dissatisfied with the medicine and the long time for its action. So the drug stopped and Ext. Felicis Liq. given. Tape worm was expelled as result of Ext. Felicis Liq. treatment.	....	

Major D. W. Sutherland, I.M.S., Professor of Medicine, Medical College, Lahore, remarks :—" *Embelia ribes*—only used in one case as a vermifuge, and without result."

## 11. REPORT ON RHEUM EMODI.

An eleventh enquiry has been commenced by the sending out of powder of the roots of *Rheum Emodi*. The following are reports upon it:—

CIVIL HOSPITAL, Parachinar, Kurram District. Medical Officer,  
CAPTAIN W. M. ANDERSON, I.M.S., M.D., Civil Surgeon.

### Case No. 1.

Name of the patient, S. J.; Address, Mangal (Kabul); Age, 25 years; Sex, Male; Occupation, Zamindar; Married or single, Single; Race and Religion, Mohamedan; Date and hour of admission, 12 P.M., 27th August 1906; Diagnosis, *Aque and Constipation*; Date of discharge, 10th September 1906; Result, Cured.

*Opinion as to the value of the drug.*—Not satisfactory as a purgative; requires to be given in 5—10 gr. doses; is very liable to gripe and is irregular in its action. In some cases the bowels were only opened after repeated doses.

Date.	Condition of the patient.	Treatment.	Diet.
27th August 1906	Admitted with a temperature of 100·2°; constipation; furred tongue.	Rheum Emodi gr. v Quinine gr. x	Own diet.
28th August 1906	Bowels did not move. Complains of abdominal pain.	Rheum Emodi gr. v.	..
29th August 1906	Still no action of bowels.	Repeated Stomachic mixture.	..
30th August 1906	Bowels opened twice after fourth dose. Temperature normal.	Repeated Rheum Emodi gr. v.	..
5th Sept. 1906	Again constipated, bowels open once after 5 gr. of Rheum Emodi.	Repeated ..	..
10th Sept. 19	Discharged.		

## Case No. 2.

Name of the patient, B. ; Address, Khost (Kabul) ; Age, 45 years ; Sex, Female ; Occupation, Zamindar ; Married or single, Married ; Race and Religion, Mohamedan ; Date and hour of admission, 12 P.M., 27th August 1906 ; Diagnosis, *Dyspepsia* ; Date of discharge, 1st September 1906 ; Result, Relieved.

*Opinion as to the value of the drug.*—Not satisfactory as a purgative ; requires to be given in 5—10 gr. doses ; is very liable to gripe and is irregular in its action. In some cases the bowels were only opened after repeated doses.

Date.	Condition of the patient.	Treatment.	Diet.
27th August 1906	Admitted complaining of pain and flatulence after food and of constipation. Tongue furred. No temperature.	Stomachic mixture. Rheum Emodi gr. v.	..
28th August 1906	Complained of griping pain during the night, but bowels did not move, till after a second dose of Rheum Emodi and then only once.	Rheum Emodi gr. v.	..
29th Aug 1st 1906	....	Rheum Emodi gr. v.	..
30th August 1906	Still has griping pain and bowels are confined.	Rheum Emodi gr. v.	..
31st August 1906	Three fluid motions..	....	..
1st Sept. 1906 ..	Discharged herself.	....	..

## Case No. 3.

Name of the patient, A. A. ; Address, Toori (Parachinar) ; Age, 23 years ; Sex, Male ; Occupation, Patwari ; Married or single, Married ; Race and Religion, Mohamedan ; Date and hour of admission, 4 P.M. 11th August 1906 ; Diagnosis, *Dyspepsia and Constipation* ; Date of discharge, 17th August 1906 ; Result, Improved.



*Opinion as to the value of the drug.*—Not satisfactory as a purgative; requires to be given in 5—10 gr. doses; is very liable to gripe and is irregular in its action. In some cases the bowels were only opened after repeated doses.

Date.	Condition of the patient.	Treatment.	Diet.
11th August 1906	Admitted for dyspepsia and constipation. No motion.	Rheum Emodi gr. v.	Own diet.
12th August 1906	Also given Tinct. Picrorhiza as a bitter tonic. No motion.	Repeated gr. v.	..
13th August 1906	One motion .. ..	Do.	..
14th August 1906	Improved. Three motions.	Do.	..
17th August 1906	Discharged.		

#### Case No. 4.

Name of the patient, I. B. ; Address, Kabul territory ; Age, 35 years ; Sex, Female ; Occupation, Zamindar ; Married or single, Married ; Race and Religion, Afghan, Mohamedan ; Date and hour of admission, 4 P.M., 21st July 1906 ; Diagnosis, *Rheumatism and Constipation* ; Date of discharge, 5th August 1906 ; Result, Cured.

*Opinion as to the value of the drug.*—Not satisfactory as a purgative; requires to be given in 5—10 gr. doses; is very liable to gripe and is irregular in its action. In some cases the bowels were only opened after repeated doses.

Date.	Condition of the patient.	Treatment.	Diet.
21st July 1906 ..	Admitted complaining of pain in joints. Temp. was 100·2° and there was constipation and furred tongue. No result.	Rheum Emodi gr. iii.	Own diet.
22nd July 1906 ..	Bowels not opened..	Repeated in morning.	..
23rd July 1906 ..	Bowels open three times, but complained of griping heat and pain all over the body. After this date bowels remained open.	Repeated gr. 10 Sod. Salicylas and Sod. Bicarb. āā. gr. x t. d. s.	..
5th August 1906	Discharged—cured.		

## Case No. 5.

Name of the patient, S.; Address, Kabul territory; Age, 40 years; Sex, Female; Occupation, Zamindar; Married or single, Married; Race and Religion, Mohamedan; Date and hour of admission, 4 P.M., 21st July 1906; Diagnosis, *Constipation in a case of Emphysema and Bronchitis*; Date of discharge, 5th August 1906; Result, Cured.

*Opinion as to the value of the drug.*—Not satisfactory as a purgative; requires to be given in 5—10 gr. doses; is very liable to gripe and is irregular in its action. In some cases the bowels were only opened after repeated doses.

Date.	Condition of the patient.	Treatment.	Diet.
21st July 1906 ..	Admitted complaining of cough, constipation and fever. Temperature 100·2°. Tongue furred. No result.	Rheum Emodi gr. iii.	Milk and rice.
22nd July 1906 ..	After second dose complained of griping; vomited twice, bowels opened twice and after this remained regular.	Repeated in morning.	..
23rd July 1906 ..	....	Expectorants with Tinct. Lobeliæ.	..
5th August 1906	Discharged—cured.		

## 12. REPORT ON CASSIA MONTANA.

The Committee have further experimented in Calcutta with senna from *Cassia montana*. Leaves of *Cassia montana* appeared in the London market as senna in 1901. The fact was communicated by Mr. E. M. Holmes, Curator of the Museum of the Pharmaceutical Society of London, to the Reporter on Economic Products in Calcutta, who made over to the Indigenous Drugs Committee a supply of the leaves. The Committee decided to experiment with the drug and the President undertook himself to try it and so also for the Committee did Dr. Radha Gobinda Kar. The drug was found by both officers to be very inferior to ordinary senna.

Colonel Harris reported that in one, two, and even four ounce doses it was of little use. Dr. Kar made the following interesting report :

"Therapeutic value of Syrup *Cassia montana*, received through Dr. Rai Chuni Lal Bose Bahadur, and experimented during January 1904, on some patients of the Albert Victor Hospital, 5, Belgachia Road, Calcutta.

### *Case No. 1.—K. S., aged 24.*

Has been suffering from stricture of the rectum. Her bowels are irregular. Took the syrup in dr. i doses three times a day for a long time, but without effect.

### *Case No. 2.—U. N. K., aged 30.*

Had had constipation. At first a single dose of dr. iii of the syrup was given without effect. Then dr. iv of the syrup was given three times a day, but still no effect. After ten days we had to have recourse to mag. sulph.

### *Case No. 3.—B., aged 70.*

Admitted in semi-conscious state. One dose of dr. iii of the syrup was given her once, without any effect.

### *Case No. 4.—T. C. M., aged 40.*

Had had constipation for two days. One dose of dr. iii of the syrup was given and his bowels moved once in the next morning.

### *Case No. 5.—N., aged 50.*

Has been suffering from dyspepsia for about two months. Now and then she has constipation. Has been taking the syrup for about a week in dr. ii doses twice daily, but no effect. One extra dose of dr. iv moved her bowels once after two days' constipation.

From the above we think that the therapeutic effect of the syrup is not satisfactory."



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